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## LAPORAN AKHIR

### MAGANG & STUDI INDEPENDEN BERSERTIFIKAT MACHINE LEARNING PATH

di Bangkit Academy 2022 by Google, GoTo,  
Traveloka  
**PT Presentologics**

Diajukan untuk memenuhi persyaratan kelulusan  
Program MSIB MBKM

oleh :

Kiagus Muhammad Arsyad / 105219002



**PROGRAM STUDI ILMU KOMPUTER  
UNIVERSITAS PERTAMINA  
2022**



Pertamina

**STUDI INDEPENDEN BERSERTIFIKAT MACHINE LEARNING PATH**

di Bangkit Academy 2022 by Google, GoTo, Traveloka

**PT Presentologics**

oleh :

Kiagus Muhammad Arsyad / 105219002

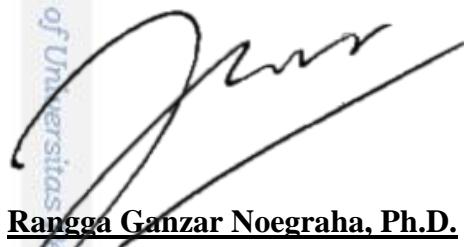
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Laporan Studi Independen Bersertifikat Kampus Merdeka

Jakarta, 30 Juni 2022

Pembimbing Studi Independen

Program Studi Ilmu Komputer Universitas Pertamina



**Rangga Ganzar Noegraha, Ph.D.**

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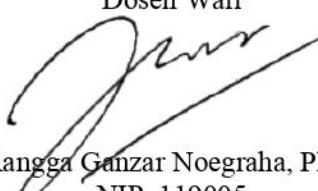
Instansi/Mitra MBKM	:	Ditjen Dikti bersama Google, GoTo, dan Traveloka
Judul Kegiatan	:	Bangkit Academy 2022 – Machine Learning Learning Path
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4.	52401	Proyek Multidisiplin	3
5.	52926	Proyek Independen I	8
6.	52929	Proyek Independen IV	3
<b>Total SKS</b>			<b>20</b>

Jakarta, 11 Maret 2022

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## Abstraksi

Kegiatan ini dilakukan dalam waktu lima bulan di Bangkit Academy by Google, GoTo, Traveloka PT Presentologics. Dengan alur belajar multidisiplin “Machine

1. Learning Path” menjadi salah satu perwujudan dari adanya Merdeka Belajar Kampus Merdeka. Mempersiapkan peserta dengan kecakapan (skills) yang relevan dan dibutuhkan berdasarkan sertifikasi teknikal. Berisi kegiatan yaitu pembelajaran secara mandiri yaitu: Sesi Konsultasi, Sesi ILT (Instructor-Led Training) – Machine Learning [ILT-ML], Softskill [ILT-Softskill], English [ILT-English], Team Meeting, dan Proyek Akhir berupa Product-based Capstone Project. Semua rangkaian kegiatan tersebut mampu menjadikan para peserta khususnya pada alur belajar ML. Dapat memahami esensi dan pengaplikasian pembelajaran mesin, baik memahami dari konsep, praktik, hingga pengaplikasian di bidang industri. Para peserta Bangkit yang dapat menjalani masa program dengan baik, akan mendapatkan kesempatan mengikuti ujian sertifikasi. Berupa kesempatan mengikuti TensorFlow Developer Certification oleh Google secara resmi dan gratis. Adapun kegiatan tersebut telah berjalan dengan baik karena keikutsertaan peran aktif dari para peserta. Serta dukungan dan pihak yang terkait telah menyelenggarakan kegiatan ini sesuai dengan yang direncanakan.

**Kata Kunci:** Bangkit, ILT, Machine Learning, Proyek Akhir, Sertifikasi

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## Kata Pengantar

Segala puji bagi Allah Swt. Tuhan Semesta Alam. Berkat limpahan nikmat dan karunianya penulis dapat menyelesaikan Laporan Akhir Studi Independen

1. Bersertifikat Kampus Merdeka dengan lancar. Penyusunan laporan ini dilakukan untuk memenuhi persyaratan kelulusan Program Merdeka Belajar – Kampus Merdeka (MBKM) Studi Independen Bersertifikat.

Selama proses program yang dilakukan dalam lima bulan di Bangkit Academy by Google, GoTo, Traveloka PT Presentologics. Dengan alur belajar multidisiplin “Machine Learning Path” serta proses penyusunan laporan ini. Tentu tak lepas dari bantuan, arahan, masukan, serta bimbingan dari berbagai pihak. Untuk itu, saya selaku penulis mengucapkan terima kasih kepada Kemendikbudristek dan seluruh pihak yang terkait. Telah menyelenggarakan Bangkit Academy 2022 dengan sangat baik.

Meski demikian, penulis menyadari masih banyak kekurangan dalam penulisan laporan akhir ini. Sehingga penulis secara terbuka menerima saran dan kritik positif dari pembaca. Agar hasil laporan akhir yang didapat mencapai kesempurnaan dan bisa menjadi referensi yang baik bagi pembaca. Demikian apa yang dapat saya sampaikan. Semoga laporan akhir ini dapat bermanfaat dan dapat menjadi referensi yang baik bagi pembaca. Khususnya mahasiswa yang hendak melaksanakan Studi Independen Bersertifikat baik di instansi yang sama maupun yang berbeda.

Terima kasih.

Bandar Lampung, 30 Juni 2022

**Kiagus Muhammad Arsyad**

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## Bab I Pendahuluan

### I.1 Latar belakang

Dalam rangka mempersiapkan siswa menghadapi perubahan sosial, budaya dan dunia kerja serta kemajuan teknologi yang semakin pesat. Tidak hanya dengan dunia industri dan pekerjaan, tetapi juga dengan masa depan yang berubah dengan cepat. Perguruan tinggi diusahakan mampu merancang dan melaksanakan proses pembelajaran yang inovatif, membantu mahasiswa mencapai hasil belajar optimal. Serta konsisten dalam hal aspek sikap, pengetahuan, dan keterampilan.

Kebijakan Merdeka Belajar - Kampus Merdeka (MBKM) hadir untuk menjawab kebutuhan tersebut. Kampus Merdeka adalah bentuk pembelajaran yang mandiri dan fleksibel untuk menciptakan budaya belajar yang berorientasi pada mahasiswa. Pelaksanaannya dapat berupa: magang/kerja di industri dan tempat kerja lainnya, pelaksanaan proyek pengabdian masyarakat di desa, pendidikan di satuan pendidikan, keikutsertaan dalam pertukaran pelajar, pelaksanaan penelitian, pelaksanaan kewirausahaan, penelitian/pelaksanaan mandiri, dan lain-lain. Berbagai bentuk kegiatan pembelajaran selain perguruan tinggi proyek-proyek institusi-pekerjaan dan program-program kemanusiaan berikutnya.

Salah satu wujud dari pelaksanaan dari MBKM adalah Program Studi Independen Bersertifikat, Bangkit. Bangkit didesain untuk mempersiapkan peserta dengan kecakapan (skills) yang relevan dan dibutuhkan berdasarkan sertifikasi teknikal. Tahun ini, Bangkit menyelenggarakan 3 (tiga) alur belajar multidisiplin Machine Learning, Mobile Development (Android), dan Cloud Computing. Dengan mengikuti Bangkit, peserta akan memiliki pengalaman dan terekspos serba-serbi karir di industri dan pekerjaan teknologi Indonesia.

Bangkit adalah program pembelajaran yang dipimpin oleh Google yang didukung oleh GoTo, Traveloka, dan DeepTech Foundation. Dengan dukungan Kampus Merdeka, Bangkit akan menyediakan 3.000 lokasi bagi pelajar Indonesia.

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Memastikan hal terkait dengan keterampilan yang dibutuhkan di industri selama periode genap 2021/2022.

## I.2 Lingkup

1. Program MBKM Studi Independen Bersertifikat, Bangkit Academy by Google, GoTo, Traveloka, dengan alur belajar Machine Learning. Meliputi pembelajaran secara individu dalam bentuk *asynchronous* (daring melalui modul belajar di Coursera, Qwiklabs, dan Dicoding Academy) dan berkelompok 5-6 orang pada saat melaksanakan proyek akhir.

Adapun beberapa hal yang perlu diperhatikan pada peserta dalam masa kegiatan Bangkit, diantaranya:

- Menghadiri dan berpartisipasi aktif dalam sesi wajib
- Pada sesi mandiri, perlu menyelesaiannya pada minggu yang sama
- Kirimkan pekerjaan milik sendiri untuk tugas dan proyek
- Menyelesaikan tugas resmi dari Bangkit
- Berkontribusi pada Bangkit Capstone Project
- Mengikuti dan mematuhi Bangkit Code of Conduct (Kode Etik)

## I.3 Tujuan

Tujuan yang dihasilkan setelah mengikuti MSIB Bangkit Academy dengan alur belajar Machine Learning Path, yaitu:

1. Menyelesaikan seluruh matrikulasi pada Pembelajaran Machine Learning - Learning
2. Menyelesaikan aktivitas terkait Pembelajaran non-teknis
3. Mendapatkan sertifikasi dan kredensial dari hasil belajar individu melalui Coursera dan Dicoding Academy
4. Menyelesaikan Proyek Akhir berupa pengembangan aplikasi dengan mengimplementasikan hasil pembelajaran

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5. Mampu membangun kerja sama antar anggota dengan baik dalam mengerjakan Proyek Akhir
6. Meraih kesempatan sebagai Best TOP 53 Product-based Capstone Team dalam mengikuti Proyek Akhir
7. Dapat mengikuti ujian sertifikasi TensorFlow Developer Certification by Google

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## Bab II Lingkungan Organisasi Bangkit Academy

### II.1 Struktur Organisasi

Bangkit didesain untuk mempersiapkan peserta dengan kecakapan (skills) yang relevan dan dibutuhkan berdasarkan sertifikasi teknikal. Tahun ini Bangkit kembali menyelenggarakan 3 (tiga) alur belajar multidisiplin: Machine Learning, Mobile Development (Android), dan Cloud Computing. Dengan mengikuti Bangkit, peserta akan memiliki pengalaman, terekspos dengan karir industri, dan pekerjaan di ekosistem teknologi Indonesia.

Bangkit merupakan program pembelajaran yang dipimpin oleh Google dengan dukungan GoTo, Traveloka, dan DeepTech Foundation. Dengan dukungan Kampus Merdeka, Bangkit menawarkan 3.000 tempat untuk mahasiswa Indonesia yang memiliki kecakapan yang dibutuhkan industri.

Adapun struktur organisasi, merupakan sebuah garis penugasan formal yang menunjukkan alur tugas tanggung jawab setiap anggota perusahaan. Perusahaan serta hubungan antar pihak dalam organisasi yang bekerja sama untuk mencapai suatu tujuan organisasi. Berikut ini struktur organisasi dari Bangkit Academy 2022.

a. menyebutkan sumber sesuai kaidah kecendekiaan;

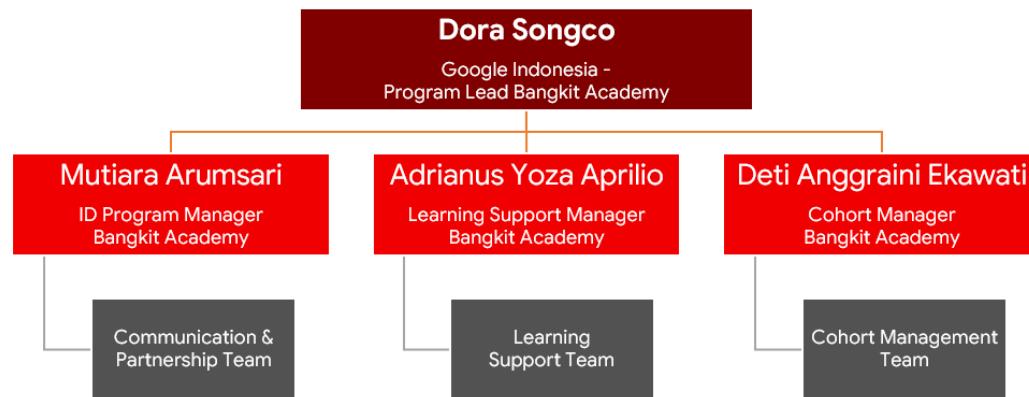
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## Bangkit Academy 2022 Organizational Chart



Gambar 1. Struktur organisasi Bangkit Academy 2022

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*softskill*. Diadakan rutin setiap dua minggu, mengerjakan kuis, tugas yang diberikan, dan formulir *feedback*.

- Sesi ILT (*Instructor-Led Training*) – English [ILT-English], sebagai peserta diwajibkan untuk mengikuti rangkaian sesi pembelajaran Bahasa Inggris. Diadakan sebanyak tiga kali, mengerjakan kuis, tugas yang diberikan, dan formulir *feedback*.

*Team Meeting*, sebagai peserta diwajibkan hadir dalam sesi kegiatan tersebut. Diisi oleh ID Program Manager, Learning Support Manager, dan Cohort Manager dari Bangkit Academy (struktur dapat dilihat pada *Gambar 1.*). Memberikan berupa pemberitahuan, pengingat *timeline*, dan seluruh informasi yang penting terkait pelaksanaan program Bangkit.

Proyek Akhir berupa Product-based Capstone Project. Sebagai ketua sekaligus koordinator dari kelompok proyek akhir yang diampu dengan nama tim “TuRu (Translator Tuna Rungu)”. Serta berkontribusi sebagai Pengembang Machine Learning untuk pengembangan aplikasi yang dijadikan sebagai produk hasil dari Proyek Akhir.

### II.3 Deskripsi Pekerjaan

Pembelajaran secara mandiri dilakukan dalam bentuk *asynchronous* secara daring. Diwajibkan menyelesaikan pembelajaran berfokus pada alur belajar Machine Learning yang disediakan melalui platform Coursera dan Dicoding Academy. Serta tugas yang diberikan (pada saat ILT-ML) sesuai dengan *timeline* yang diberikan, meliputi:

1. Python Basic Programming (Dicoding Academy)
2. Google IT Automation with Python (Coursera)
3. Mathematics for Machine Learning (Coursera)
4. TensorFlow Developer Professional Certificate (Coursera)
5. Structuring Machine Learning Projects (Coursera)
6. TensorFlow Data and Deployment (Coursera)
7. TensorFlow Certification Preparation (Dicoding Academy)

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Mengikuti sesi ILT (*Instructor-Led Training*) Bahasa Inggris dan Softskill yang diwajibkan untuk hadir. Serta mengerjakan kuis pada saat sesi, dan mengerjakan tugas yang diberikan, meliputi:

1. Time Management (ILT-Softskill)
2. Spoken Correspondence (ILT-English)
3. Professional Branding & Interview Communication (Softskill)
4. Critical Thinking (Softskill)
5. Expressing Opinion (English)
6. Adaptability (Softskill)
7. Idea Generation and MVP Planning (Softskill)
8. Business Presentation (English)
9. Startup Valuation and Investment Pitch (Softskill)
10. Professional Communications (Softskill)

Menghadiri setiap pertemuan wajib yang akan diisi oleh para ketiga Manager pada Bangkit Academy. Yaitu ID Program Manager, Learning Support Manager, dan Cohort Manager dari Bangkit Academy pada *Team Meeting*. Mengisi absensi sebagai bukti keikutsertaan dalam kegiatan tersebut.

Kemudian pada akhir program, diwajibkan untuk melaksanakan Proyek Akhir. Mengikutsertakan pada kategori Product-based Capstone yang dikoordinasi oleh pihak Bangkit Academy. Mengoordinasi dan berhasil untuk menghasilkan produk berupa luaran yaitu sebuah aplikasi. Dengan mengambil tema *Character-Building & Community Empowerment* dengan judul “TuRu (Translator Tuna Rungu)”. Bersama dengan keempat rekan aktif, yang berasal dari alur belajar lainnya seperti *Mobile Development* dan *Cloud Computing*.

## II.4 Jadwal Kerja

Merujuk pada VII.3, berikut jadwal berupa tanggal kegiatan berdasarkan *timeline* program Bangkit pada alur belajar Machine Learning.

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• **ILT-ML**

- Python Basic Programming (Dicoding Academy): Minggu Pertama [8 – 14 Februari 2022]
- Google IT Automation with Python (Coursera): Minggu Kedua – Minggu Kelima [15 Februari – 14 Maret 2022]
- Mathematics for Machine Learning (Coursera): Minggu Kelima – Minggu Keenam [15 – 21 Maret 2022]
- TensorFlow Developer Professional Certificate (Coursera): Minggu Ketujuh – Minggu Kesembilan [22 Maret – 11 April 2022]
- Structuring Machine Learning Projects (Coursera): Minggu Kesembilan [11 – 14 April 2022]
- TensorFlow Data and Deployment (Coursera): Minggu Kesepuluh – Minggu Kesebelas [15 – 25 April 2022]
- TensorFlow Certification Preparation (Dicoding Academy): Minggu Kedelapan belas – Minggu Kesembilan belas [14 – 27 Juni 2022]

• **ILT-English dan ILT-Softskill**

- Time Management (ILT-Softskill): Minggu Kedua – Minggu Keempat [15 Februari – 3 Maret 2022]
- Spoken Correspondence (ILT-English): Minggu Keempat [3 – 7 Maret 2022]
- Professional Branding & Interview Communication (Softskill): Minggu Keempat – Minggu Keenam [4 – 17 Maret 2022]
- Critical Thinking (Softskill): Minggu Keenam – Minggu Kedelapan [18 – 31 Maret 2022]
- Expressing Opinion (English): Minggu Kedelapan [29 Maret – 4 April 2022]
- Adaptability (Softskill): Minggu Kedelapan – Minggu Kesepuluh [1 – 14 April 2022]
- Idea Generation and MVP Planning (Softskill): Minggu Kesepuluh – Minggu Kedua Belas [15 April – 9 Mei 2022]

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- Business Presentation (English): Minggu Ketiga Belas – Minggu Keempat Belas [10 Mei – 23 Mei 2022]
- Startup Valuation and Investment Pitch (Softskill): Minggu Ketujuh Belas – Minggu Kedelapan Belas [7 – 20 Juni 2022]
- Professional Communications (Softskill): Minggu Kesembilan Belas – Minggu Kedua Puluh [21 Juni – 4 Juli 2022]

**• Team Meeting**

Kegiatan *Team Meeting* telah dilakukan sebanyak 4 kali, yaitu pada tanggal:

- 1) *Team Meeting* 1: 7 Maret 2022
- 2) *Team Meeting* 2: 6 April 2022
- 3) *Team Meeting* 3: 12 Mei 2022
- 4) *Team Meeting* 4: 7 Juni 2022

**• Proyek Akhir / Capstone Project**

Pada kegiatan Proyek Akhir / *Capstone Project* dilakukan dalam rentang tanggal dari awal pembentukan tim proyek. Berakhir hingga *2<sup>nd</sup> Final Presentation* berdurasi kurang lebih 2 bulan yaitu 30 April – 20 Juni 2022.

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## Bab III Machine Learning Path

### III.1 Deskripsi Proyek Akhir – Product Based Capstone Project

Proyek Akhir termasuk dalam kategori *Product-based Capstone* yang berarti projek yang dikelola oleh pihak Bangkit Academy. Dalam pelaksanaannya, mengambil tema yaitu “*Character-Building & Community Empowerment*”. Adapun pada projek ini, dilakukan peserta setiap Learning Path yaitu *Machine Learning*, *Mobile Development*, dan *Cloud Computing*.

Dimulai sejak minggu kesepuluh hingga minggu kesembilan belas, tepatnya pada tanggal 18 April – 27 Juni 2022. Dalam rentang tersebut, dilakukan pencarian anggota secara mandiri untuk pembentukan sebuah tim yang berisi 6 orang. Dilanjutkan dengan adanya: pengumpulan rencana proyek (*Project plan*), *monitoring* progress dari penggerjaan proyek, mendapatkan kredit GCP dan revisi mentoring, *mid-checkpoint*, pengumpulan *Final Deliverable*, presentasi proyek, pengumuman Top 50 (kini Top 53), dan berakhir pada tahap inkubasi untuk Top 15.

### III.2 Awal Mula Ide Proyek Akhir

Bersama dengan rekan satu alur belajar yang sama di *Machine Learning*, kami melakukan suatu gagasan ide awal. Dalam pengembangan proyek, sebuah aplikasi diharapkan mampu dalam membantu komunikasi dengan orang tuli dan orang normal. Dengan memanfaatkan hasil belajar *Image Classification* terkait *RockPaperScissors*, muncullah ide untuk memanfaatkan bahasa isyarat. Diperagakan menggunakan tangan, sehingga dari gerakan tangan tersebut akan diterjemahkan perhuruf. Sehingga, orang normal akan lebih mudah dan efektif mempraktikkan bahasa isyarat, tanpa perlu mempelajarinya dengan waktu lama.

Dari hal tersebut, kami merumuskan 4 aspek agar ide tersebut dapat terlihat mudah untuk dipahami dan berbobot, antara lain:



1. **Permasalahan:** Kesulitan interaksi dalam komunikasi antara orang normal dan tuli.
2. **Rumusan masalah:** Bagaimana aplikasi Turu dapat membantu interaksi antara orang normal dan tuli? dan kemudian Bagaimana orang normal dapat memahami bahasa isyarat dengan cepat?
3. **Latar belakang:** Ada banyak orang tuli di Indonesia, tetapi masih ada masalah, terutama dalam menjalin komunikasi dengan orang normal. Toleransi antara orang normal dan tuli, dan penerimaan bahasa komunikasi bagi tunarungu menggunakan indra visual mereka.
4. **Alasan mengambil masalah ini:** Untuk membantu kedua belah pihak berkomunikasi, untuk membuatnya lebih mudah untuk memahami bahasa isyarat secara efektif. Tanpa perlu mempelajari bahasa isyarat secara khusus, menjadikan latihan kecil gerakan tangan dalam memahami bahasa isyarat.

### III.3 Tools/IDE/Library dan Resources Lainnya yang Akan Digunakan

*Tools:* Webcam, Android Phone, GitHub

*IDE:* Google Colaboratory, Visual Studio Code, Android Studio, Postman, Internet Browser

*Library:* TensorFlow, JSON Web Token or OAuth2

*Platform:* Android

*Resources:* GCP Credits

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### III.4 Pelaksanaan dan Peran Machine Learning pada Proyek Akhir

Dalam membantu aplikasi akan berfungsi dengan baik terutama dalam mendeteksi bentuk gestur dari tangan. Dalam mengungkapkan bahasa isyarat per huruf, maka diperlukanlah *dataset*/kumpulan data yaitu foto-foto dari peragaan ASL.

1.

03

#### IMPLEMENTATION - MACHINE LEARNING

##### DATASET

##### ASL Fingerspelling Images (RGB & Depth)

- 131.668 images
- 24 labels



Gambar 2. Dataset of ASL Fingerspelling Images (RGB & Depth)

\*Dataset tersebut dapat diperoleh melalui [link ini](#).

Setelah melalui banyak tantangan, tahapan, dan proses, maka telah berhasil membuat sebuah model, seperti pada Gambar 3 berikut ini.

2.

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03

#### IMPLEMENTATION - MACHINE LEARNING

##### MODEL SUMMARY

Model: "sequential"		
Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 62, 62, 32)	896
conv2d_1 (Conv2D)	(None, 60, 60, 32)	9248
max_pooling2d (MaxPooling2D) (None, 30, 30, 32)	0	
dropout (Dropout)	(None, 30, 30, 32)	0
conv2d_2 (Conv2D)	(None, 28, 28, 64)	18496
conv2d_3 (Conv2D)	(None, 26, 26, 64)	36928
max_pooling2d_1 (MaxPooling2D) (None, 13, 13, 64)	0	
dropout_1 (Dropout)	(None, 13, 13, 64)	0
flatten (Flatten)	(None, 10816)	0
dense (Dense)	(None, 128)	1384576
dense_1 (Dense)	(None, 24)	3096

Total params: 1,453,240  
Trainable params: 1,453,240  
Non-trainable params: 0

##### TRAINING PROCESS AND RESULT

```

Epoch 1/10
3292/3292 [=====] - 180s 51ms/step - loss: 0.7204 - accuracy: 0.7794
Epoch 2/10
3292/3292 [=====] - 154s 47ms/step - loss: 0.2657 - accuracy: 0.9145
Epoch 3/10
3292/3292 [=====] - 122s 37ms/step - loss: 0.1842 - accuracy: 0.9390
Epoch 4/10
3292/3292 [=====] - 119s 36ms/step - loss: 0.1434 - accuracy: 0.9516
Epoch 5/10
3292/3292 [=====] - 121s 37ms/step - loss: 0.1180 - accuracy: 0.9603
Epoch 6/10
3292/3292 [=====] - 119s 36ms/step - loss: 0.1082 - accuracy: 0.9657
Epoch 7/10
3292/3292 [=====] - 119s 36ms/step - loss: 0.0885 - accuracy: 0.9695
Epoch 8/10
3292/3292 [=====] - 118s 36ms/step - loss: 0.0785 - accuracy: 0.9732
Epoch 9/10
3292/3292 [=====] - 119s 36ms/step - loss: 0.0711 - accuracy: 0.9762
Epoch 10/10
3292/3292 [=====] - 118s 36ms/step - loss: 0.0644 - accuracy: 0.9782
Execution time is: 0:21:30.227659

```

```

print("Final accuracy: {:.2f}%".format(final_accuracy * 100))
Final accuracy: 89.86%

```

Gambar 3. Model Training dan Hasil Keliarannya



Dengan akurasi yang dicapai hingga **sekitar 89%**. Dalam proses penggerjaannya, diterapkan berupa TensorFlow Lite dan menggunakan bahasa pemrograman Python. Platform yang digunakan selama penggerjaannya lebih sering menggunakan Google Colab, sehingga dapat berkolaborasi dengan mudah dan singkat.

1. Setelah model berhasil dibuat, maka rekan dari Mobile Development akan memanfaatkan model tersebut dan mengimplementasikannya pada *mobile*.

03

### IMPLEMENTATION - MOBILE DEVELOPMENT

#### Machine Learning

```

val model = AclQuant.newInstance(context)
// get image
bitmap = binding.previewImageView.drawable.toBitmap()

// set format image
bitmap = Bitmap.createScaledBitmap(bitmap!!, dotWidth: 64, dotHeight: 64, filter: true)

if(bitmap != null) {
    val tensorImage = TensorImage(DataType.FLOAT32)
    Log.d(tag "shape", msg: "byteBuffer $tensorImage")
    tensorImage.load(bitmap)
    Log.d(tag "shape", msg: "byteBuffer $tensorImage")

    val byteBuffer = tensorImage.buffer
    Log.d(tag "shape", msg: "byteBuffer $byteBuffer")

    // Creates inputs for reference.
    val inputFeature0 = TensorBuffer.createFixedSize(intArrayOf(1, 64, 64, 3), DataType.FLOAT32)
    inputFeature0.loadBuffer(byteBuffer)
    Log.d(tag "shape", msg: "input : ${inputFeature0.buffer}")

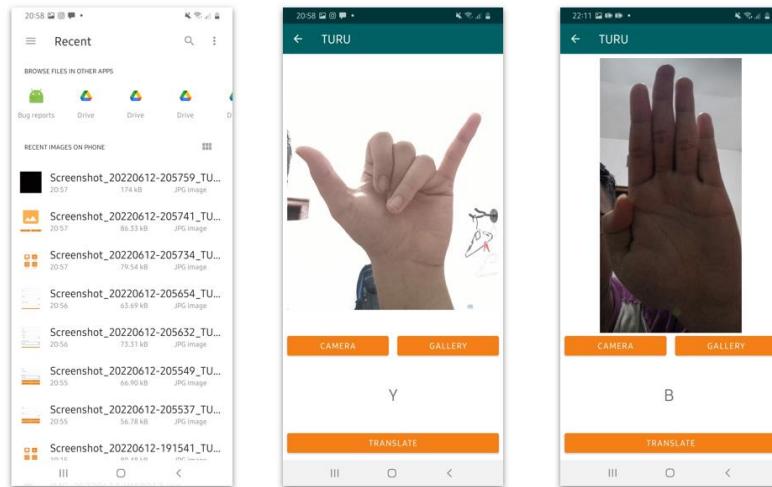
    // Releases model resources if no longer used.
    model.close()
}

```

Gambar 4. Implementasi model dari ML pada pengembangan aplikasi

Berikut ini salah satu contoh implementasi dari integrasi *machine learning* dan pengimplementasian pada android oleh tim.

- a. menyebutkan sumber sesuai kaidah kecendekiaan;
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Gambar 5. Contoh Simulasi dalam Mendeteksi Gestur Bahasa Isyarat ASL

### III.5 Hambatan Selama Pelaksanaan Proyek Akhir

Dua hal yang menjadi hambatan kepada tim yaitu:

1. Ada beberapa *timeline* yang tidak sesuai, salah satunya dikarenakan belum mendapatkan adanya *review* terkait *Project Plan*. Sehingga penggeraan proyek melambat, namun teratasi karena disarankan untuk mengerjakan sesuai dengan yang direncanakan saja terlebih dahulu.
2. Belum adanya kegiatan sesi Mentoring pada Proyek Akhir. Tim telah berusaha menghubungi sedini mungkin setelah mendapatkan informasi terkait nama dan kontak mentor. Agar harapannya dapat dilakukan mentoring sesuai rencana, akan tetapi para mentor tidak ada yang merespon. Sehingga hal tersebut menjadi hambatan sekaligus tantangan agar tetap bisa *survive* dalam melaksanakan Proyek Akhir.

Meskipun demikian, tim masih tetap melaksanakannya dengan baik dan meraih kesempatan sebagai *Best Top 53* pada *Product-based Capstone Project*.



## Bab IV Penutup

Setelah melakukan kegiatan MBKM MSIB berupa program Bangkit Academy 2022 by Google, GoTo, Traveloka di PT Presentologics. Diadakan secara daring, terdapat kesimpulan dan saran yang ditujukan kepada pihak yang terkait dalam penyelenggaraan kegiatan ini.

### IV.1 Kesimpulan

Adapun terdapat beberapa kesimpulan yang diperoleh selama melaksanakan kegiatan, yaitu:

- Kegiatan MSIB MBKM berupa Bangkit Academy berjalan sesuai dengan alur *timeline*, visi, misi, dan tujuan dibentuknya program. Ilmu, pengalaman, dan segala aspek yang diharapkan pada setiap ketiga jenis alur belajar yakni: Machine Learning, Mobile Development, dan Cloud Computing, telah terlaksana dan terorganisir dengan baik.
- Kegiatan *Challenge* untuk mendapatkan poin, cukup memotivasi dalam melakukan hal bermanfaat yang diperlukan dalam *Challenge* tersebut.
- Proyek Akhir telah dilaksanakan dengan baik dan berhasil menumbuhkan pengalaman aplikatif kepada peserta yang melakukan pembelajaran sebelumnya.

### IV.2 Saran

Di sisi lain, tentu saja terdapat hal-hal yang perlu ditingkatkan selama pelaksanaan program Bangkit berupa saran, yaitu:

- Terdapat aspek yang diharapkan namun belum didapatkan oleh sebagian para peserta. Diperlukan formulir berupa *crosscheck* kemampuan dan pengalaman secara rutin agar dapat dievaluasi oleh pihak penyelenggara terhadap peserta.
- Kegiatan akan semakin baik, jika kegiatan terlaksana sesuai dengan *timeline*. Sehingga kegiatan terlaksana sesuai dengan *timeline* yang telah dirancang dengan estimasi tertentu.

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• Perlu adanya tanggapan pada setiap *feedback* yang dikirimkan oleh para peserta dan didiskusikan secara bersama. Menjadikan evaluasi bukan hanya pihak penyelenggara namun untuk para peserta juga.

Perlu adanya sikap responsif yang tidak terlalu lama terutama dalam permohonan peserta untuk keperluan administrasi. Agar tidak berdampak pada kualitas peserta terhadap universitas maupun instansi lainnya.

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- [1] Ferani, Eva Zulvia, dkk. (2022). Buku Pedoman Implementasi Merdeka Belajar Kampus Merdeka Universitas Pertamina 2022. Jakarta: Universitas Pertamina.
- [2] Kemdikbud, & Mohammad, T. (2020). Buku Panduan Merdeka Belajar - Kampus Merdeka (1st ed.). Direktorat Jenderal Pendidikan Tinggi Kemdikbud RI.  
<https://doi.org/10.31219/osf.io/ujmte>.

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## Bab V Lampiran

### Bab VI Lampiran A. Term of Reference (TOR)

Perencanaan yang cermat telah dilakukan untuk merancang kurikulum untuk program ini dari awal hingga akhir. Pada akhir program, semua peserta yang

1. memenuhi kriteria penyelesaian, akan dianggap sebagai Lulusan Bangkit dan diberikan sertifikat prestasi/penyelesaian serta transkrip lengkap. Bagi yang tidak menyelesaikan semua Bangkit akan mendapatkan Sertifikat Kehadiran dan transkrip sebagian. Para lulusan Bangkit juga akan mendapatkan voucher berupa ujian sertifikasi dari Jalur Pembelajaran masing-masing. Adapun syarat kelulusan Bangkit 2022 adalah sebagai berikut:

- **Menghadiri dan berpartisipasi aktif dalam sesi wajib**, termasuk namun tidak terbatas pada:
  - Sesi Pembukaan Bangkit 2022
  - 80% sesi yang dipimpin Instruktur untuk Teknologi\*
  - 80% sesi yang dipimpin Instruktur untuk Soft Skill\*
  - 90% dari tamu wajib/kuliah khusus \*
  - dan sesi wajib lainnya yang ditambahkan atas kebijakan Tim Bangkit

*\*peserta dapat melewatkannya karena keadaan yang tidak memungkinkan dan sangat diperlukan dengan mengisi formulir (maks. 3 hari sebelum sesi). Dan peserta memiliki 5 kesempatan untuk melewatkannya. Sesi yang terlewat harus dibuat dengan bergabung dengan sesi grup lain atau menonton rekaman dan mengirimkan abstrak.*

- **Untuk sesi mandiri, perlu menyelesaiannya pada minggu yang sama.**  
Pada saat memiliki hal-hal yang harus dilakukan untuk waktu mandiri yang dialokasikan, maka tidak perlu mengisi formulir. Mengalokasikan waktu lain di luar Bangkit serta waktu untuk belajar dan menyesuaikan diri.  
Metode pembelajaran Bangkit menggabungkan belajar mandiri online, pelatihan sinkron online / dipimpin instruktur (ILT / Instructor-Led Training), dan pembelajaran berbasis proyek. Oleh karena itu, untuk

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membantu dalam merencanakan waktu dengan baik, pihak Bangkit telah membuat jadwal belajar dari awal hingga akhir.

**Kirimkan pekerjaan milik sendiri untuk tugas dan proyek.**

Bangkit merupakan bagian dari program Kampus Merdeka yang mengharuskan para peserta untuk menegakkan kejujuran dalam akademik. Sebagai peserta harus menunjukkan dan menjunjung tinggi nilai integritas dan kejujuran yang tertinggi dalam semua pekerjaan akademis yang dilakukan. Plagiarisme tidak diizinkan dan skor untuk tugas masing-masing akan dibatalkan / ditolak jika karya peserta ditandai sebagai plagiarisme. Mitra platform pembelajaran oleh pihak Bangkit dapat memblokir atau menonaktifkan akun peserta jika terdapat indikasi menjiplak atau tidak jujur berdasarkan kebijakan mitra sendiri.

**Menyelesaikan tugas resmi dari Bangkit** (termasuk kelas dan mitra platform pembelajaran - Dicoding, Google Cloud Skills Boost, Coursera) masing-masing sesuai dengan standar masing-masing. Keterlambatan pengiriman akan diterima, tetapi akan mengurangi skor tugas masing-masing.

**Berkontribusi pada Bangkit Capstone Project.**

Hal tersebut akan dinilai oleh para panitia Tim Bangkit dan anggota tim peserta dan termasuk kehadirannya dalam presentasi tugas akhir.

- **Mengikuti dan mematuhi Bangkit Code of Conduct (Kode Etik).**



## Bab VII Lampiran B. Log Activity

Minggu/Tgl	Kegiatan	Hasil
Week 1 / 14-18 of February 2022	<p>In my first week, on 14-18 of February 2022. This is my learning momentum will be started.</p> <p>Start from Day-1:</p> <p>I've got so many pre-activity information from today, which are:</p> <ul style="list-style-type: none"> <li>1) About a whole of the things from Bangkit 2022 program</li> <li>2) Tips&amp;Trick Unleash potential from GoTo</li> <li>3) What's new in Bangkit 2022</li> <li>4) Code of Conduct, Learning Method &amp; Curriculum</li> <li>5) Info about ILT</li> <li>6) Technical Briefing (Start from about the platform/channel until the rules in joining the Bangkit)</li> <li>7) Bonus: Deadliner Tips</li> </ul> <p>Day-2:</p> <p>I learned and review the material of Programming Logic 101 in Dicoding. The topic discussed about what is the Logic and Algorithm also the differences from both of them, then about Logic Gate, and the last about Computational Thinking.</p>	<ul style="list-style-type: none"> <li>- Got pre-activity information for Bangkit program</li> <li>- Learned and review Programming Logic's material and Basic of Python,</li> <li>- English lesson about tenses</li> <li>- Learn more about Python.</li> </ul>

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After that, I was continuing to read about Basic/Starting with Python Programming in Dicoding. I have learnt how to make a first installation and environment for Python Programming language in my PC, and the last I've learnt the Basic of Python.

Day-3:

I got the information for my first assignment in the Learning. Which is self-paced session or independent study with Basic Programming of Python's material. I was continuing the class from yesterday, and for the progress I have learnt until the input/output operation in Python. Eventhough, it is be like I am in reviewing the material, but still need to be more focus and don't be quickly in learning.

I just know how the code of Python programming language have its style, such like indentation with 4 spaces, then how the programmers need to behave in typing the code because there are guide that tells about the rows, comment and documentation changing. After that, i learned about

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	<p>Those materials, overall I understand, but I got stuck and still confused about the Unit Testing. To handle my confusion, I need to learn more about Unit Testing of Python in another reference's learning. After that, some of the Knowledge test that held in every last of sub-chapter, I got tricky question, from this case, I have got this experience, so I can anticipate and more focus in facing the obstacles ahead/in the future. The last, i've submitted the first assignment.</p> <p>Day-5:</p> <p>I've open the course of Python in Coursera and scheduling my time for the learning time. Also, a little bit material about English.</p>	
Week 2 / 21- 25 February 2022	<p>In my second week, on 21-27 of February 2022. My learning still to be continued.</p> <p>Day-1:</p> <p>I've planned to take/continue my learning in Coursera for the first time. In the beginning, I was doubt when I learn in the Coursera, yeah of course because 'Full English' hehe. BUT, when I took the lesson, there was the video appeared in my screen, I was so</p>	<ul style="list-style-type: none"> <li>- Completing first module about Crash Course on Python</li> <li>- Handle KSM and discussed with my supervisor about my Bangkit's activity</li> <li>- Learned Basic Python Syntax, Functions, Loops, and Conditionals</li> <li>- Weekly Consultation</li> </ul>



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literature electronic in the internet, also see the update from Bangkit.

Then, from my campus, I have to manage about the new semester preparation with handle the KSM problem, fill the form of MBKM participation, and there was a guardianship with my supervisor. Discussing about the next step that relate to my Bangkit's activity.

Day-3:

Third day, I continued my lesson about Basic Python Syntax, Functions, and Conditionals.

Many things I've learned from those lesson, which are:

- I know how to differentiate and convert between the diffencies of data types in utilize the variables
- Defining and calling functions with parameters and return data
- Refactoring the code and write comments to make easier if there is complexity and develop the code readability and code reuse
- Comparing the values using operator of equality or logic



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<p>Friday (25/02):</p> <p>-&gt; I joined two activities: Weekly Consultation and Afternoon Appreciation that held by my campus</p> <p>-&gt; Continuing my learning:</p> <p>String</p> <ul style="list-style-type: none"><li>- Manipulation with indexing, slicing, and formatting</li><li>- Using lists and tuples to store, reference, and manipulate the data</li><li>- Leveraging dictionaries to store more of complex data, keys to reference the data, and storing manipulate data</li><li>- Combining the data type to construct complex data structures</li></ul> <p>OOP (Object-Oriented Programming)</p> <ul style="list-style-type: none"><li>- Demonstrating object-oriented programming with class and object</li></ul> <p>Saturday(26/02):</p> <p>-&gt; Continue the learning</p> <p>OOP</p> <ul style="list-style-type: none"><li>- Implementing the classes with custom attributes and methods</li><li>- Writing the docstrings for documenting the classes and methods</li></ul> <p>Preparing of Final Project</p>	
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	<ul style="list-style-type: none"> <li>- Tackling more complex problems from the ground up using a framework</li> <li>- Formulating a problem statement to understand the inputs and outputs of a script such like documentation</li> <li>- Conducting research into options for tackling the problem</li> <li>- Planning an approach to solve the problems</li> <li>- Writing a complex script in order for implement a solution</li> </ul> <p>Sunday(27/02)</p> <p>-&gt; Finish the final project of Crash Course on Python (3 hours) with one try, without cheatsheet and stackoverflow</p> <p>-&gt; Recap the activities within last 3 days to fill the report</p> <p>-&gt; Continue the new course for my new learning focus (Course 2 of 6), which is "Using Python to Interact with the Operating System"</p>	
Week 3 / 28 of February – 4 of March 2022	<p>In my first week of March, on 28 Feb, 1-6 of March 2022. My learning still to be continued.</p> <p>Start from Day-1:</p>	<ul style="list-style-type: none"> <li>- Continued to second courses about Getting Your Python On</li> <li>- Completed all assessment through Qwiklab</li> </ul>



	<p>I continued my lesson in the second courses, with the material about Getting Your Python On.</p> <p>With the materials:</p> <ul style="list-style-type: none"> <li>- Having an understanding of the different operating systems</li> <li>- Utilizing Python environment and install another modules for Python</li> <li>- Running Python with local on this machines</li> <li>- Understanding the benefits of automation and awareness about the pitfalls</li> </ul> <p>Day-2:</p> <p>Completed all assessments through Qwiklab.</p> <p>After that, I got bunch of knowledge and motivation from these two activities, which are:</p> <p>1) First Day of Student Supplies from Kampus Merdeka Team, with the material start from the basic such like the background motivation in joining MSIB's program, Logbook, working culture, tips during the activity, Chief and CoC, Kampus Merdeka account management. And then the main session is coming from Mas Dave that</p>	<ul style="list-style-type: none"> <li>- Student Supplies from Kampus Merdeka Team</li> <li>- ILT-Softskill about Time Management</li> <li>- Learned course about Operating System</li> <li>- Joined Pembekalan Mahasiswa Program MSIB Angkatan 2 - Hari Kedua</li> <li>- Learned about CSV</li> <li>- Weekly Consultation</li> </ul>
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<p>discussed about Do's and Don'ts in during join the activity, the reports, and many others.</p> <p>2) 2nd ILT: Softskill (Time Management) that taught by Bu Rabiatul Adwiyah. We learned about 5 pillars of time management, example of being disciplined in real life, how to enforcing self-discipline, Four Quadrants of Time Management, knowing 2 sources of distraction, and capacity planning.</p> <p>Day-3:</p> <p>I've learned in the Course about OS:</p> <ul style="list-style-type: none"><li>- Understanding how to read, write, and iterate through files</li><li>- Utilizing the concept of managing files</li><li>- Know how to create the directories and navigate it through directories</li></ul> <p>Also, there was a session (Pembekalan Mahasiswa Program MSIB Angkatan 2 - Hari Kedua), many things that I learned from Dave and others inspiring people from ex-Bangkit Students:</p> <ul style="list-style-type: none"><li>- How to manage the time and energy</li><li>- Define what leadership is and the typical of leadership</li></ul>	
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	<ul style="list-style-type: none"> <li>- Understanding how to create directories and navigate through directories</li> <li>- Defining CSV files are and be able to read from them</li> <li>- Understanding the way to write and make edits to CSV files within directories</li> <li>- Defining what is a regular expression</li> <li>- Utilizing some basic regular expression examples</li> <li>- Understanding detail of repetition qualifiers</li> <li>- Utilizing advanced regular expressions and understand the exercise that can be used in real-life</li> </ul>	
Week 4 / 7-11 of March 2022	<p>In my second week of March, on 7-11 of March 2022. My learning still to be continued.</p> <p>Start from</p> <p>Day-1:</p> <p>I joined the Mandatory activity which is Team Meeting 1. With mas Yoza and kak Deti, discussed about:</p> <ul style="list-style-type: none"> <li>- Bangkit 2022 Communication channel</li> <li>- Score Percentage</li> <li>- Tech and Softskill ILT (Quiz and other rules)</li> <li>- Students Dashboard</li> </ul>	<ul style="list-style-type: none"> <li>- Joined Team Meeting 1</li> <li>- Finished Operating System Course</li> <li>- Learned about Git and GitHub</li> <li>- Finished the course about Git and GitHub</li> <li>- ILT-ML about Python IT Automation - Git Collaboration, Troubleshooting, and Intro to Cloud</li> </ul>



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<p>- Giving Negative Information - Business Call Role-Play</p> <p>Day-4: Exercising my learning for the third course about Introduction to Git and Github.</p> <p>How to handle collaboration with well, and learned about:</p> <ul style="list-style-type: none"><li>- Recognizing how to create, update, and execute pull requests on GitHub</li><li>- Recognizing what a code review is and be able to utilize the code review workflow</li><li>- Exploring how to use code reviews in GitHub</li></ul> <p>Day-5: Continuing the description from yesterday:</p> <ul style="list-style-type: none"><li>- Knowing the importance of managing projects and accepting or rejecting changes</li><li>- Utilizing issue trackers</li><li>- Recognizing the methodology behind continuous integration</li><li>- Finishing the course</li></ul>
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	<p>Then, I continue to the fourth course about Troubleshooting and Debugging Techniques.</p> <p>I also joined the Weekly Consultation with Kan Andi Iqbal, discussed about the usual reminder, project, ask about the report of Kampus Merdeka, and sharing session.</p>	
Week 5 / 14-18 of March 2022	<p>In my third week of March, on 14-18 of March 2022. My learning still to be continued.</p> <p>Start from Day-1:</p> <p>I continued my learn in the fourth course "Troubleshooting and Debugging Techniques"</p> <ul style="list-style-type: none"> <li>- Know about Debugging</li> <li>- Understanding the problem such like finding the root cause</li> <li>- Binary Searching a Problem</li> <li>- Understanding Slowness</li> <li>- Know about Slow Code and when Slowness problems get complex</li> <li>- Programs and Code Crash</li> <li>- Handling Bigger Incidents</li> </ul> <p>Also, in the same day, I joined Softskill ILT "Professional Branding &amp; Interview" with Mas Yudithia Dian</p>	<ul style="list-style-type: none"> <li>- ILT-Softskill about Professional Branding &amp; Interview</li> <li>- Finished the course about Troubleshooting and Debugging Techniques</li> <li>- Learned about Configuration Management and the Cloud</li> <li>- Finished the course about Configuration Management and the Cloud</li> <li>- Weekly Consultation</li> <li>- Started learn about Mathematics for Machine Learning</li> </ul>



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<p>Putra. Discussed a lot about this topic, such like:</p> <ul style="list-style-type: none"><li>- Be able to create a strong professional branding</li><li>- Recognize the importance of professional networking, and</li><li>- Be prepared to communicate effectively during interviews</li></ul> <p>Day-2:</p> <p>Continued my last course learning:</p> <ul style="list-style-type: none"><li>- Managing Computer Resources and Our Time</li><li>- How to Making Our Future Lives Easier</li><li>- Finished this course</li></ul> <p>Then, continue to Fifth Course "Configuration Management and the Cloud" about:</p> <ul style="list-style-type: none"><li>- What is Automation at Scale</li><li>- Know about Puppet</li><li>- Building Blocks of Configuration Management</li><li>- Deploying Puppet Locally</li><li>- Deploying Puppet to Clients</li><li>- Updating Deployments</li><li>- Cloud Computing</li><li>- Managing Instances in the Cloud</li><li>- Automating Cloud Deployments</li></ul>
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<p>Day-3:</p> <p>Continued my last course such:</p> <ul style="list-style-type: none"><li>- Building Software for the Cloud</li><li>- Monitoring and Alerting</li><li>- Troubleshooting and Debugging</li><li>- Finished the course</li></ul> <p>And then THE FINAL is Sixth Course/Capstone, such Big Boss for me. There are four challenges from each week with total 4 weeks.</p> <p>Week 1: Scale and convert images using PIL (Finish with 1 try)</p> <p>Week 2: Process Text Files with Python Dictionaries and Upload to Running Web Service (Finish with 2 tries)</p> <p>Week 3: Automatically Generate a PDF and send it by Email (Finish with 2 tries)</p> <p>Week 4: Automate updating catalog information (Finish with 1 try)</p> <p>Day-4:</p> <p>Special for this day, I was refreshing my mind because what I've done yesterday as a self reward, but I just see for a while about what Course as a my second Chapter Learning Path and enroll those classes (Google Data</p>
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<p>Week 6 21-25 of March 2022</p>	<p>In my fourth week of March, on 21-25 of March 2022. My learning still to be continued with the new theme which is about MATH.</p> <p>Start from</p> <p>Day-1:</p> <p>I continued my last course from last week such:</p> <ul style="list-style-type: none"> <li>- Identifying matrices as operators</li> <li>- How to relate the transformation matrix to a set of new basis vectors</li> <li>- How to Formulate code for mappings based on these transformation matrices</li> <li>- Writing the code to find an orthonormal basis set computationally</li> </ul> <p>Day-2:</p> <p>Continued my last course learning:</p>	<ul style="list-style-type: none"> <li>- Continued learn and finished about Math for ML about Linear Algebra</li> <li>- ILT-ML about Mathematics for Machine Learning</li> <li>- Continue learned about Multivariate Calculus</li> <li>- Weekly Consultation</li> </ul>

	<ul style="list-style-type: none"> <li>- Identifying geometrically what an eigenvector/value is</li> <li>- Applying mathematical formulation in simple cases</li> <li>- How to build an intuition of larger dimension eigensystems</li> <li>- Writing the code to solve a large dimensional eigen problem</li> </ul> <p>Day-3:</p> <p>Finished my first course of Math for ML about Linear Algebra, and review also recalling back what I've learned in this first course.</p> <p>In the afternoon, I joined ILT Mathematics for Machine Learning with the instructor Mas Salsabil Maulana Akbar. It was really fun to discussed more about the fundamental usage of math for machine learning, how the way to implement that, and answer the questions about this topic.</p> <p>Day-4:</p> <p>Continue the lesson in my course, learned about Multivariate Calculus which are:</p> <ul style="list-style-type: none"> <li>- What is calculus and its multivariate</li> <li>- Application of Chain rule</li> <li>- Taylor Series and Linearization</li> </ul>
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	<ul style="list-style-type: none"> <li>- Optimization Introduction</li> <li>- Simple Regression</li> </ul> <p>Day-5:</p> <p>Finished my second course about Multivariate Calculus, and continue to the third course about Principal Component Analysis (PCA), which are:</p> <ul style="list-style-type: none"> <li>- Statistics of Datasets</li> <li>- Inner Products</li> <li>- Orthogonal Projections</li> <li>- Principal Component Analysis</li> </ul> <p>Also, today I joined weekly consultation, even though in silent session but we have talk and discuss each other in the chat column.</p> <p>On the Saturday and Sunday, I was struggling to complete some rest of quizzes and assignments that still need to improve, reach the maximum score, and learn my problem of mistake.</p>	
Week 7 / 28 of March - 1 of April 2022	<p>In my last week of March, on March 28th 2022 - April 1st 2022. My learning has already in the context of Machine Learning Specialization, focused to learn about how to use TensorFlow.</p>	<ul style="list-style-type: none"> <li>- Got into Machine Learning Specialization on Coursera</li> <li>- Learned and finished about DeepLearning.AI</li> </ul>



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	<p>Start from Day-1:</p> <p>In the first day of this week, I enrolled new program which is about DeepLearning.AI TensorFlow Developer from DeepLearning.AI.</p> <p>Start the point to learn about Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning which are:</p> <ul style="list-style-type: none"> <li>- Monitoring the accuracy of the housing price predictions</li> <li>- How to analyze housing price predictions that come from a single layer neural network</li> <li>- Using TensorFlow to build a single layer neural network for fitting linear models</li> </ul> <p>Day-2:</p> <p>I got a new insight for the learning platform to learn Machine Learning with TensorFlow deeper, which is Machine Learning Crash Course with TensorFlow APIs from Google Developer with free during my learning. So, i just wanna know and follow the learning to add more knowledge, so my learning not only</p>	<p>TensorFlow Developer</p> <ul style="list-style-type: none"> <li>- ILT-Softskill about Critical Thinking</li> <li>- Weekly Consultation</li> </ul>
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from Coursera, but supported by this platform also.

I was so happy, because this platform provide Dub Indonesia, so I can follow more clearly about what I've learned today.

Day-3:

Today, I continued my learning in the Coursera about,

- Using callback functions for tracking model loss and accuracy during training
- How to predict the layer size affects network predictions and training speed
- Implementing pixel value normalization to speed up network training
- How to build a multilayer neural network for classifying the Fashion MNIST image dataset

Day-4:

Continued my learning in Coursera which are:

- How to use callback functions to interrupt training after meeting a threshold accuracy
- Testing the effect of adding convolution and MaxPooling to the



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	<p>neural network for classifying Fashion MNIST images on classification accuracy</p> <ul style="list-style-type: none"> <li>- Explaining and visualizing how convolution and MaxPooling aid in image classification tasks</li> </ul> <p>Day-5:</p> <p>Continued my learning about:</p> <ul style="list-style-type: none"> <li>- How to reflect on the possible shortcomings of your binary classification model implementation</li> <li>- Executing image preprocessing with the Keras ImageDataGenerator functionality</li> <li>- How to carry out real life image classification by leveraging a multilayer neural network for binary classification</li> </ul> <p>Also today, I joined Weekly Consultation to discuss about the reminder, new issue, and some of problem in submission.</p>	
Week 8 / 4-8 of April 2022	<p>In my first week of April, on April 4th-8th 2022. I learn a new thing in TensorFlow and join many other sessions.</p> <p>Start from Day-1:</p>	<ul style="list-style-type: none"> <li>- Finished course about Introduction to TensorFlow</li> <li>- Weekly Consultation</li> <li>- ILT session about TensorFlow in Practice</li> </ul>



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	<p>In the first day of this week, I finished first course of Introduction to Tensorflow. Many materials I've got from this course, especially in term of function and how to use it in some cases.</p> <p>Also, today I joined Weekly Consultation, discuss about the usual reminder and preparation for tomorrow's activity.</p> <p>Day-2:</p> <p>Continued my learning about:</p> <ul style="list-style-type: none"> <li>- How to gain understanding about Keras' utilities for pre-processing image data, in particular the ImageDataGenerator class</li> <li>- Developed helper functions to move files around the filesystem so that they can be fed to the ImageDataGenerator</li> </ul> <p>Also, I joined ILT session about Tensorflow in Practice, this session run smoothly also I get engage to participate this.</p> <p>Day-3:</p> <p>In third day, this is important day and reminding for me because there is activity which is Team Meeting. In this</p>	<ul style="list-style-type: none"> <li>- Team Meeting 2</li> <li>- Participated in Challenge of Time Management</li> <li>- ILT-English about Expressing Opinions</li> </ul>
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	<p>meeting, I got a lot of new information which are:</p> <ul style="list-style-type: none"> <li>- Capstone Project Briefing</li> <li>- Student Monthly Recap (Progress + ILT Feedback)</li> <li>- Reward System &amp; First Challenge</li> <li>- QA</li> </ul> <p>I also directly participate the challenge to make a video about Time Management.</p> <p>Day-4:</p> <p>I joined a session about English Session: Expressing Opinions with the instructor Kathryn Grace.</p> <p>A lot of interesting experience in this learning, the instructor was so really fun in her teaching, I also participated actively in this session even though my English wasn't good enough for now. I got the knowledge related to Expressing Opinions such as:</p> <ul style="list-style-type: none"> <li>- Asking for an opinion</li> <li>- Stating an opinion</li> <li>- Expressing agreement</li> <li>- Expressing disagreement</li> <li>- Giving Feedback/Advice</li> </ul> <p>Day-5:</p>
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	<p>Continued my learning about:</p> <ul style="list-style-type: none"> <li>- Learned how to plot training and validation accuracies to evaluate model performance</li> <li>- How to build a classifier using convolutional neural networks for performing cats vs dogs classification</li> </ul>	
Week 9 / 11-15 of April 2022	<p>In my second week of April, on April 11th-15th 2022. I continued my learning in course: DeepLearning.AI TensorFlow Developer, also there are a lot of information and activity related to capstone especially Company-based.</p> <p>Start from Day-1:</p> <p>In the first day of this week, I continued my learning with a lil bit fast than before, what I learned are:</p> <ul style="list-style-type: none"> <li>- How to recognize the impact of adding image augmentation to the training process, particularly in time</li> <li>- Demonstrated overfitting or lack of by plotting training and validation accuracies</li> <li>- How to familiarize with the ImageDataGenerator parameters used for carrying out image augmentation</li> <li>- How to mitigate overfitting by using data augmentation techniques</li> </ul>	<ul style="list-style-type: none"> <li>- Joined session discussion for Company-based capstone</li> <li>- Learned about Natural Language Processing in TensorFlow</li> <li>- ILT-Softskill about Adaptability</li> <li>- Finished course about DeepLearning.AI TensorFlow</li> <li>- Enrolled TensorFlow: Data and Deployment</li> </ul>



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	<ul style="list-style-type: none"><li>- Master the keras layer type known as dropout to avoid overfitting</li><li>- How to achieve transfer learning in code using the keras API</li><li>- How to code a model that implements Keras' functional API instead of the commonly used Sequential model</li><li>- Learn how to freeze layers from an existing model to successfully implement transfer learning</li><li>- Explored the concept of transfer learning to use the convolutions learned by a different model from a larger dataset</li><li>- How to build a multiclass classifier for the Sign Language MNIST dataset</li><li>- Learn how to properly set up the ImageDataGenerator parameters and the model definition functions for multiclass classification</li><li>- Understanding the difference between using actual image files vs images encoded in other formats and how this changes the methods available when using ImageDataGenerator</li><li>- How to code a helper function to parse a raw CSV file which contains the information of the pixel values for the images used</li></ul>	
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Also for today, I joined some session related about Company Capstone, and build the team and have a discussion with them.

Day-2:

I begin in the new course (third course) about Natural Language Processing in TensorFlow. What I've learned which are:

- the Tokenizer and pad\_sequences APIs in TensorFlow and know how they can be used to prepare and encode text and sentences to get them ready for training neural networks
- What is embeddings, understand sentiment in text, train a neural network on texts that are labelled 'positive' or 'negative' and determining which words in a sentence drive those meanings
- Understand context in sequence
- How to use and make sequence models and literature

Also, today I joined ILT softskill session about Adaptability, and in the night I was making a gathering discussion to prepare and submit the proposal for company capstone.



	<p>Day-3:</p> <p>In third day, I continued my learning about:</p> <ul style="list-style-type: none"><li>- Define and understand what is sequences and prediction</li><li>- Know what the implementation of Deep Neural Networks for time series</li><li>- How to recurrent Neural Networks for time series</li><li>- Know what is real-world time series data</li></ul> <p>I also directly participate the challenge to make a video about Time Management.</p> <p>Day-4:</p> <p>What i've learned from third course and last course from DeepLearning.AI TensorFlow Developer, I just focus to finish all the assignments in a day.</p> <p>There are some problem and difficulties when work the assignment, but alhamdulillah I did it and make the course has pass.</p> <p>Day-5:</p> <p>I enrolled a new course about TensorFlow: Data and Deployment,</p>	
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		<p>and see the preview what I will learn later on.</p> <p>Also today, I get to refresh my mind with review what I've learned in the last course.</p>	
1.	Week 10 / 18-22 of April 2022	<p>In my third week of April, on April 18th - 22th 2022. I started with new learning course about TensorFlow: Data and Deployment. Start from this week, for the new course about TensorFlow: Data and Deployment, I will have a plan to learn the material first for all of weeks, then in the second week I have focused to do the assignment and quiz.</p> <p>Day-1:</p> <p>So, for this week I've learned about Browser-based Models with TensorFlow.js which are:</p> <ul style="list-style-type: none"> <li>- How to use TensorFlow.js to build and train simple machine learning models in JavaScript</li> <li>- Describing the key characteristics of one-hot encoding</li> <li>- How to use TensorFlow.js to load data from a CSV file</li> <li>- Using tf-vis to visualize the output of callbacks</li> </ul>	<ul style="list-style-type: none"> <li>- Started new course about TensorFlow: Data and Deployment</li> <li>- ILT-ML about TensorFlow: Data and Deployment</li> <li>- Learned Browser-based Models with TensorFlow.js</li> <li>- Learned Device-based Models with TensorFlow Lite</li> <li>- Learned Data Pipelines with TensorFlow Data Services</li> <li>- Get into Advanced Deployment Scenarios with TensorFlow</li> </ul>



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	<ul style="list-style-type: none"><li>- Implementing a convolutional neural network to build a handwriting classifier</li><li>- Using a sprite sheet to train a classifier</li><li>- How to use the tensorflow.js converter to convert a Keras model to JSON format</li><li>- Implementing a toxicity model to determine if a phrase is toxic in a number of categories</li><li>- How to use Mobilenet to detect objects in images</li></ul> <p>Day-2:</p> <p>This day, I continued my learn about:</p> <ul style="list-style-type: none"><li>- Train a model in your web browser by using images captured via a webcam</li><li>- Apply transfer learning to train a model to recognize hand gestures of rock, paper, and scissors</li><li>- Apply transfer learning to train a model to recognize hand gestures of rock, paper, scissors, lizard, and spock</li></ul> <p>Next sub-course about Device-based Models with TensorFlow Lite, and learn about:</p> <ul style="list-style-type: none"><li>- Understand how TensorFlow Lite works under the hood</li></ul>	
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	<ul style="list-style-type: none"><li>- Use different libraries and techniques to export your data into new training pipelines</li><li>- Practice with pre-built pipelines that reduce your development time significantly</li><li>- Create different feature columns using functions like bucketing, hashing and tokenizing</li><li>- Compare and contrast different data types present in TensorFlow Data class with the practice quiz while elaborating more on data operations like one-hot encoding, bucketing and tokenizing</li><li>- Apply various data operations in the assignment to create different types of feature columns which you see frequently in different ML problem statements, compile and train them on a custom csv dataset that is loaded using tf.Data API</li><li>- Identify bottlenecks in your input pipelines</li><li>- Improve your pipelines impacting your model training</li><li>- Learn about caching and parallelizing your inputs</li><li>- Develop your intuition towards using best practices with the first quiz to identify bottlenecks in input and</li></ul>
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	<p>training pipelines and to mitigate them using caching and parallelization.</p> <ul style="list-style-type: none"> <li>- Parallelize various stages of the Extract, Transform and Load processes in the assignment by caching and prefetching instead of just naively loading the data from cats vs dogs dataset to build an optimized training pipeline</li> <li>- Publish and share your own datasets using TensorFlow Hub</li> </ul> <p>Day-5:</p> <p>Get into the last course about Advanced Deployment Scenarios with TensorFlow, and learned about:</p> <ul style="list-style-type: none"> <li>- TF serving as another deployment option for the model and ways to install it</li> <li>- Building a model and deploying to TF Serving</li> <li>- Passing data to and from the model</li> <li>- Looking into a more complex model using the Fashion MNIST dataset</li> <li>- Sharing pre-trained models with TensorFlow Hub</li> <li>- Overview and local of Tensorboard</li> <li>- Graphics and confusion matrix</li> <li>- Privacy and masking</li> <li>- Intro and APIs of Federated Learning</li> </ul>
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<p>Week 11 / 25-29 of April 2022</p> <p>1. Dilarang mengutip karya tulis ini, kecuali: a. menyebutkan sumber sesuai kaidah kecendekian; b. pengutipan hanya untuk keperluan pendidikan, penulisan karya ilmiah atau penelitian; c. pengutipan tidak merugikan Universitas Pertamina.</p> <p>2. Dilarang mempublikasikan atau memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa adanya izin dari Universitas Pertamina.</p>	<p>In the last week of April, on April 25th - 29th 2022. As what I've planned before in the last week, so for this week I will continue my course learning to do the assignment and quiz.</p> <p>Day-1:</p> <p>For today, I've finished my assignment and quiz with total 3 weeks from sub-course about Browser-based Models with TensorFlow.js. With the assignment/quiz:</p> <ol style="list-style-type: none"> <li>1) How try to build and train a neural network that can predict from new data whether the diagnosis is malignant or benign and how to train your network using the given CSV data.</li> <li>2) How try to build and train a neural network that can classify the images in the Fashion MNIST dataset.</li> <li>3) Trained a neural network to classify images of Cats and Dogs and how to save model as a Keras HDF5 file, and then using the TensorFlow.js converter to convert it to JavaScript.</li> </ol> <p>Day-2:</p> <p>This day, I continued my assignment/quiz, with the total 3 weeks:</p>	<ul style="list-style-type: none"> <li>- Finished Browser-based Models with TensorFlow.js,</li> <li>- Device-based Models with TensorFlow Lite, Data Pipelines with TensorFlow Data Services</li> <li>- ILT-Softskill about Idea Generation &amp; MVP Planning</li> <li>- Continued the assignments</li> <li>- Finished all of quizzes, and review about TensorFlow: Data and Deployment</li> </ul>
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<p>Week 12 / 2-6 of May 2022</p>	<p>Special for this week, because there was a big event for moslem which is Ied Fitir, so in the first three days, I didn't do anything related to my study because focused on this.</p> <p>After a few day in celebrating Ied Fitir, I continued my schedule to prepare Capstone Project with my team. Also,</p>	<ul style="list-style-type: none"> <li>- Ied Fitir celebration (holiday for 3 days)</li> <li>- Continued to prepare capstone project with team and preparing the agenda</li> </ul>

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related about it. Beside that, I asked about what will we have to prepare to join Team Meeting for tomorrow.

After that, in the middle of weekday, there is an agenda "Team Meeting 3", discussed about:

- Google Certification
- 3rd Softskill Challenge
- Bangkit 2022 Career Fair
- 3rd & 4th Milestone recap

Also many kinds of QnA at the time of meeting.

Last day of the week, I have a discussion and briefing with my team about my fixed plan in meeting case, when will be have a meeting? Is that routine? What we're gonna talk in discussion? Many other question that delivered by my members of capstone project.

At the end, we decide to held the discussion every night on Monday, Wednesday, and Friday. Each discussion, will discuss about the progress from each Learning Path / Specialization, what have we developed? Build? and something else.

<p>Week 14 / 16-20 of May 2022</p> <p>1. Dilarang mengutip karya tulis ini, kecuali: a. menyebutkan sumber sesuai kaidah kecendekian; b. pengutipan hanya untuk keperluan pendidikan, penulisan karya ilmiah atau penelitian; c. pengutipan tidak merugikan Universitas Pertamina.</p> <p>2. Dilarang mempublikasikan atau memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa adanya izin dari Universitas Pertamina.</p>	<p>In the third week of May, on May 16th - 20th 2022. This week will be filled by activity related to daily standup routine meeting.</p> <p>On last week, we already decide to held the discussion every night on Monday, Wednesday, and Friday. So, start from on Monday, we will do our activity routine to keep on update about our team's progress. After that in the night, me and my team, because this is the first daily standup, I chosen as a leader for this team. So yeah, start from Monday I have a new responsibility to keep update, remind each other, and manage the team also discussion for our team. Then, we discussed about a new idea that will be used for our project.</p> <p>On Tuesday, I was searching and browsing about what application will be used for our base idea in the capstone project. Seeing the past alumnae history from Bangkit, what have they developed, what have they mostly built for their project, asking my facilitator about his experience, and many others. However, from that, I</p>	<ul style="list-style-type: none"> <li>- Daily standup routine team</li> <li>- Chosen as a leader team for capstone project of my team</li> <li>- Making a progress ML for project</li> <li>- Finding idea for capstone</li> <li>- ILT-English about Business Presentation</li> </ul>
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		In this session, I asked a question, about approval statement that a little bit late. Also, tonight, we have standup meeting, discussed about: <ul style="list-style-type: none"> <li>- Clarification about approval statement</li> <li>- First week progress</li> <li>- Minimum accuracy (ML)</li> <li>- Mid-checkpoint info</li> <li>- Endpoint, bookmark, Heroku deployment for database (CC)</li> </ul>	
Week 15 / 23-27 of May 2022		<p>In the fourth week of May, on May 23rd - 27th 2022. This week will be filled by activity related to daily standup routine meeting and other activities.</p> <p>On Monday, as usual, we have daily standup of our capstone project and report how was progress from each of learning path (ML, CC, MD). We discussed about:</p> <ul style="list-style-type: none"> <li>- Heroku development progress</li> <li>- Some mockup in application</li> <li>- Model and TFLite</li> <li>- Backend process between CC and ML</li> <li>- Capstone Working Document</li> <li>- Mid-checkpoint</li> <li>- First week progress</li> <li>- Minimum accuracy (ML)</li> </ul>	<ul style="list-style-type: none"> <li>- Daily standup routine team</li> <li>- Internship</li> <li>- Socialization</li> <li>- Making a progress ML for project</li> <li>- Non mandatory session with Laurence Moroney about how TensorFlow implements for the world</li> </ul>

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	<ul style="list-style-type: none"> <li>- History and account</li> <li>- Bangkit Capstone Team Info update</li> <li>- Working Document</li> </ul> <p>On Friday, I attended a non-mandatory session with a speaker. This session will be presented by Laurence Moroney (Lead Artificial Intelligence Advocate, Google) - the guy who often appeared in my Coursera course because he is one of the instructors in that course. Many kinds that I have learned from him, the most point I got is what TensorFlow implements for this world and how useful it is. For team meeting update, we discussed about:</p> <ul style="list-style-type: none"> <li>- Activation GCP with token from Bangkit</li> <li>- Checkpoint report</li> <li>- Model progress</li> <li>- Mentoring's proposal</li> </ul>	
Week 16 / 30 of May - 3 of June 2022	<p>In the last month of May, on May 30th - June 3rd 2022. This week will be filled by activity related to daily standup routine meeting and other activities.</p> <p>On Monday, I told to my team that start for this week, I have additional class regularly in every night, so in previous day I gave confirmation about</p>	<ul style="list-style-type: none"> <li>- Daily standup routine team</li> <li>- Weekly consultation</li> <li>- Mid-Checkpoint of project</li> <li>- Making a progress ML for project</li> </ul>

	<p>changing time for our daily standup. At the end, we agreed that our team meeting will be held at afternoon. Today, in our meeting, discussed about:</p> <ul style="list-style-type: none"> <li>- Update GCP deployment from Heroku</li> <li>- Status and condition about Rayhan</li> <li>- TensorFlow Lite implementation</li> <li>- Dataset</li> </ul> <p>On Tuesday, because I have an event from my campus, so I focussed on attending Internship Socialization. This is a new thing for me, because this program doesn't give SKS for Intern (KP), so I need to prepare it to get an internship later on.</p> <p>On Wednesday, I have team meeting with my team discussion meeting, about:</p> <ul style="list-style-type: none"> <li>- Simulation of object detection from TensorFlow</li> <li>- Confirmation about two letter of sign language 'J' and 'Z'</li> <li>- GCP</li> <li>- Mentoring problem</li> <li>- Page update from mobile</li> <li>- Rayhan's update</li> </ul>	
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	<p>shape of image is (-1, x, x, 1), so here it change become ((-1, x, x, 3). Also, I converted the model to TFLite that will be use for our MD member.</p> <p>On Friday, we continued our routine, which is discussion meeting. It has around 75% for our project's progress, it still struggle on processing model to mobile with TFLite. Also there was an information coming in, the information is about the mentoring session that maybe will be held in the near future.</p> <p>We do hope in this last of week, we can deploy our application with running well, so at the end we can present it for Final Deliverable's submission.</p>	
Week 18 / 13-17 of June 2022	<p>In the third week month of June, on June 13th - 17th 2022. This week will be filled by activity related to daily standup routine meeting and big update progress for project also TOP 53 news.</p> <p>On Monday, is one of my big day because my team keep going on to finish our capstone project, which the deadline is at 11.59 a.m. Indeed, we also had time to stay up until the morning to record our presentation. Finally, we've already completed all of</p>	<ul style="list-style-type: none"> <li>- Daily standup routine team</li> <li>- Making a presentation, having a record, uploaded to youtube</li> <li>- Submit the Final Deliverable of our team</li> <li>- Get and redeemed token for Online Learning #07 - Machine Learning -</li> </ul>



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	<p>the things that we should submit with our Final Deliverables. Around 08.00 a.m., me with one of my friends have already edited the project brief, uploaded a video on Youtube, and fill the submission form.</p> <p>On Tuesday, last day, I got an email from Bangkit with the subject "Online Learning #07 - Machine Learning - TensorFlow Certification Preparation". So, I redeemed a token to access that subject on Dicoding. After that, I see for a while what should I do to prepare for this Online Learning. After that, a full day for today, I have upgraded my LinkedIn too, because I think it will be useful for my career path later on.</p> <p>On Wednesday, we were finding information about status of invitation Peer Presentation Schedule, because tomorrow is our day for us to present if based on the theme. While waiting, I informed to my team if we will have a short discussion meeting to prepare our presentation.</p> <p>On Thursday, finally, in the morning, I have got an email from Bangkit about</p>	<p>TensorFlow Certification Preparation in Dicoding</p> <ul style="list-style-type: none"> <li>- Peer Presentation</li> <li>- Announcement for TOP 53</li> <li>- Our team <b>chosen as TOP 53</b></li> <li>- Attend Bangkit 2022 Product Capstone Top 53 Incubation Update &amp; Project Continuation</li> </ul>
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our presentation schedule. It will be held on 1-3pm with a host by Kak Deti. As our plan before, today we have the discussion meeting. I told to my team, to change or revise our words when delivering his own part for presentation, so it's not really same style and delivery in our record presentation before. While presentation time; Alhamdulillah, in the forth row, we have presented our project to audience with well.

On Friday, no exact activity because my condition is terrible, so I need to take a rest. Yeah, maybe this is because of my work before to achieve our plan before the deadline of the project capstone. Finally, all of them have been finished. Beside that, I do something else related to my work outside of Bangkit's matter.

Additional notes for this week, alhamdulillah, in the midnight of Friday, I got a good news that our team passed and chosen as TOP 53 for product capstone project. In the next day, me with my team joined the "Bangkit 2022 Product Capstone Top 53 Incubation Update & Project



	<p>Continuation". So, we will prepare it for our presentation on Monday, we hope we can present it well and chosen as TOP 15 for incubation.</p>	
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	<p>basic math, discrete mathematics, statistics, and logical programming.</p> <p>On Thursday, I finished my GitHub study at Dicoding, also I did my homework for TensorFlow Preparation. There a lot of list To Do that I need do in this two weeks. I hope I get do all of my To Do.</p> <p>On Friday, many activities that I should attend. First, I joined Bangkit Alumni Sharing Session: Certification Preparation with my ML's Alumni Kak Iga Narendra. Second, actually I know if in the afternoon at 3.30pm is my Weekly Consultation, but because usually the Weekly Consultation held at 2pm, so I can't attend this weekly, yep because I need do my Asr prayer at that time. Third, I joined ILT softskill session about Startup Valuation &amp; Investment Pitch. And last is I joined my english class.</p>	
Week 20 / 27 of June – 1 of July 2022	<p>In the last week month of June, on June 27th - 1st of July 2022. This week will be filled by activity related to my assignment for preparation certification TF and others.</p>	<ul style="list-style-type: none"> <li>- Make a progress for Preparation</li> <li>TensorFlow</li> <li>Certification in Dicoding</li> <li>- Weekly Consultation</li> </ul>



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	<p>On Monday, I did my task for my softskill about Startup Valuation and Investment Pitch. I took an MVP from the previous task, about Environment Cleanliness. From that MVP, I made ~350-400 words for the Business Pitch, so I implemented what I've learn in the softskill class in this assignment.</p> <p>On Tuesday, I do my submission for Prep TensorFlow Certification in Dicoding, sometimes a little bit easy, sometime quite hard, eventhough in my first submission got rejected, I learned and revised what The Reviewer told to me about my submission, finally I can passed for first part of submission. Next, continue to the second and third part of submission.</p> <p>On Wednesday, I managed my time to prepare for on going activities, and also do my task as a lecturer assistant. After that, I keep on see the status of submission of my prep TF task in Dicoding.</p> <p>On Thursday, I revised again for my Submission C and also progress on making Final Report. There was an</p>	<ul style="list-style-type: none"> <li>- Make a progress for Final Report</li> <li>- Finished all the submissions</li> <li>Preparation</li> <li>TensorFlow</li> <li>Certification in Dicoding</li> </ul>
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info in the morning from mba Deti, it said "for those of you who already submitted the AAD/TF Prep class submission before the deadline, July 1st at midnight. You're safe.

We will set July 1st as the deadline to submit it." So, I can be more seriously in submitting my submission later on if I got rejected again.

On Friday, I joined weekly consultation, discussed about Timeline and activities coming soon, such as Online Learning - ML, TensorFlow Preparation, and Professional Communications. Beside that, I still keep on update related to Review result for TensorFlow prep in Dicoding. After that, I joined ML Online Learning too, I hope I can more prepare for my TF Certification.

This is time for me to progress on my Final Report, and I hope I can make it on time, bring my last colloquium in the prepared condition, and become the best one.



## Bab VIII Lampiran C. Dokumen Teknik

### VIII.1 Project Plan for Bangkit 2022 Product-based Capstone

*Before starting our Capstone Project*

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#### Project Plan for Bangkit 2022 Product-based Capstone

Team ID : C22-PS143

Active Team Member:

- (ML) M2006F0575 - Mutiharis Dauber Panjaitan - Universitas Brawijaya
- (ML) M7302F2592 - Kiagus Muhammad Arsyad - Universitas Pertamina
- (MD) A7006F0577 - Johan Adi Pradana - Universitas Brawijaya
- (MD) A2296F2514 - Muhammad Rayhan Rachmansyah - Universitas Pembangunan Nasional Veteran Jawa Timur
- (CC) C2002F0110 - Mgs. Tabrani - Institut Teknologi Bandung
- (CC) C7006F0629 - Fachry Ananta - Universitas Brawijaya

Inactive Team Member: -

Gambar 6. Page 1 of 4 Project Plan for Bangkit 2022 Product-based Capstone



## Project Plan for Bangkit 2022 Product-based Capstone

### **Final Selected Themes**

Character-Building & Community Empowerment

### **Title of the Project:**

Turu (Translator Tuna Rungu)

### **Executive Summary/Abstract:**

**Problem Statement** : Interaction difficulty in communication between normal and deaf people.

**Research Question** : How can Turu application help the interaction between normal and deaf people, and then how can normal people understand sign language quickly.

**Background Information** : There are a lot of deaf people in Indonesia, but there are still problems, especially in establishing communication with normal people, tolerance between normal and deaf people, and acceptance of the language of communication for the deaf using their visual senses.

**Reason take this problem** : To help both parties communicate, to make it easier to understand sign language effectively without the need to study sign language specifically, and as a small exercise or to understand a little about hand gestures in understanding sign language.

### **How did your team come up with this project?**

Starting from the inspiration of ML members when they learned about RockPaperScissors, if it was predictable whether the gestures directed at the camera were Rock/Paper/Scissors. In this regard, the idea arose as to what if the resulting gestures played the same role in sign language, thereby helping both deaf and normal people to communicate well.

### **Project Scope & Deliverables:**

Gambar 7. Page 2 of 4 Project Plan for Bangkit 2022 Product-based Capstone

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### Project Plan for Bangkit 2022 Product-based Capstone

To Do\Week	Week 1 9-15May	Week 2 16-22May	Week 3 23-29May	Week 4 30May-5Jun	Week 5 6-10Jun
ML	Dataset, Build Model	Fixing Model	1st Deploy	Evaluate, Final Deployment	Monitoring
CC	Setting up database, Initiating back end architecture	Creating authentication endpoints	Creating ML model endpoints	Code refactoring	Deploying back end service
MD	Concept Design	Making UI & UX	Implementing Model from ML	1st Deploy	Bug Fixing

#### Project Schedule:

GANTT CHART PROJECT SCHEDULE C22-PS143					
To Do\Week	Week 1 9-15May	Week 2 16-22May	Week 3 23-29May	Week 4 30May-5Jun	Week 5 6-10Jun
Planning					
Developing					
Evaluation					
Deployment					
Testing					
Submission					

#### Note:

Green	Finished
Yellow	On Progress

**Based on your team's knowledge, what tools/IDE/Library and resources that your team will use to solve the problem?**

Tools: Webcam, Android Phone, GitHub

IDE: Google Colaboratory, Visual Studio Code, Android Studio, Postman, Internet Browser

Library: TensorFlow, JSON Web Token or OAuth2

Platform: Android

Resources: GCP credits

**Based on your knowledge and explorations, what will your team need support for?**

Mentor specialized at MD, GCP Credit for deploying at some points.

Gambar 8. Page 3 of 4 Project Plan for Bangkit 2022 Product-based Capstone



## Project Plan for Bangkit 2022 Product-based Capstone

**Based on your knowledge and explorations, tell us the Machine Learning Part of your capstone?**

Provide the dataset, prediction classification, train the data model with the neural network, and deploy to the mobile application based on sign language handshape with TensorFlow.js or TensorFlow Lite.

**Based on your knowledge and explorations, tell us the Mobile Development Part of your capstone?**

Implementing the model of Machine Learning into Android application and designing the UI & UX for the application. Also, we will make a design concept for the application on Figma first. Then we build the application using Android Studio with Native Kotlin.

**Based on your knowledge and explorations, tell us the Cloud/Web/Frontend/Backend Part of your capstone?**

Using JavaScript for the programming language, nodeJS for JavaScript runtime, and ExpressJS for the framework in the back-end service to connect ML model and mobile application. We will also use MySQL to store user data. In order to make the application online, we plan to use GCP services.

**Based on your team's planning, is there any identifiable potential Risk or Issue related to your project?**

Lack of skills in our teams resulted in difficulties in developing the application and perhaps may thwart this project in the future. Also, perhaps some external problem may have occurred at some point on some of the members of this team that may hinder the progress of this project. So the solution to the problems is to ask the mentor to guide us if we have some technical difficulties at some points when developing the application. Also if some members of the team have some external problems, they can ask for other members to take over their work.

**Any other notes/remarks we should consider on your team's application**

Gambar 9. Page 4 of 4 Project Plan for Bangkit 2022 Product-based Capstone



## VIII.2 Project Brief – Bangkit 2022 Capstone

**TuRu (Translator Tuna Rungu)  
Product Capstone**

### 1. Team ID: C22-PS143

**Selected theme: Character-Building & Community Empowerment**

**Mentor:**

1. Imanuel Abraham (no mentoring yet)
2. Vika Himawanti Suprapto, SE, C.PS, C.NHRP (no mentoring yet)

**Note for Mentoring Session:** *We had already sent the invitation asking about their spare time in the same week when Bangkit Capstone gave an email about "Bangkit Capstone Team Info", but until now, we haven't received a response anymore from both of them.*

**Member :**

1. M7302F2592 - Kiagus Muhammad Arsyad - Universitas Pertamina - ML [active]
2. M2006F0575 - Mutiharis Dauber Panjaitan - Universitas Brawijaya - ML [active]
3. A7006F0577 - Johan Adi Pradana - Universitas Brawijaya - MD [active]
4. A2296F2514 - Muhammad Rayhan Rachmansyah - Universitas Pembangunan Nasional Veteran Jawa Timur - MD [inactive]
5. C2002F0110 - Mgs. Tabrani - Institut Teknologi Bandung - CC [active]
6. C7006F0629 - Fachry Ananta - Universitas Brawijaya - CC [active]

**Backgrounder:**

TuRu (Translator Tuna Rungu) is an android application that educates the knowledge of sign language in the community and helps normal people communicate with the deaf. We planned to have some features which were register, login, images of sign language translation to corresponding letters and otherwise, history, and bookmark feature. We successfully completed all the features, except the bookmark feature on android, but we have implemented it on the back-end application. We also plan to have a new feature which is a question for a quiz that we have implemented on the back-end application.

What we've done for each of the Learning Paths:

Machine Learning: getting datasets from Kaggle, building models with TensorFlow Lite, using data pipeline to serve the models, preprocessing the data using Image Data Generator, loading the model with TensorFlow Hub and optimising with Keras, and making a prediction of some images.

Android: implementing an android application using Kotlin and android studio, communicating with the back-end application using REST API, and integrating android application with machine learning model using TFLite library to detect and predict images of sign language.

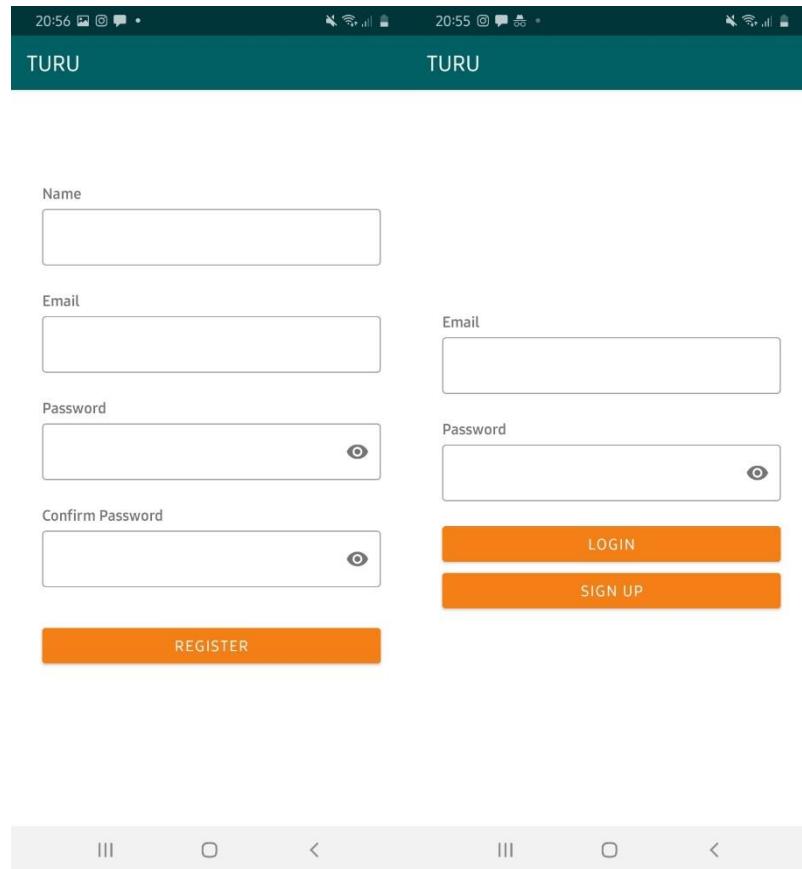
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Cloud: implementing REST API communication between back end and android application using nodeJS which is deployed in Google Compute Engine, designing the relational database using PostgreSQL which is deployed in Google Cloud Storage, and storing images of sign language in Google Cloud Storage.

### Project Status

- >85% project plan completed

### Screenshots/Demo Video



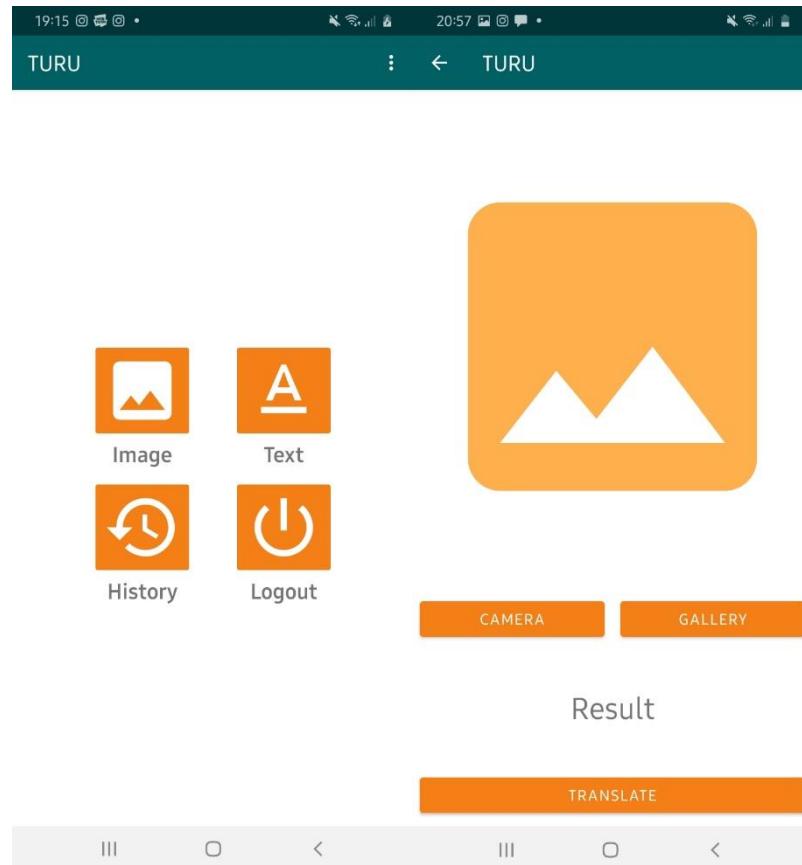
Gambar 10. Login and Register Page

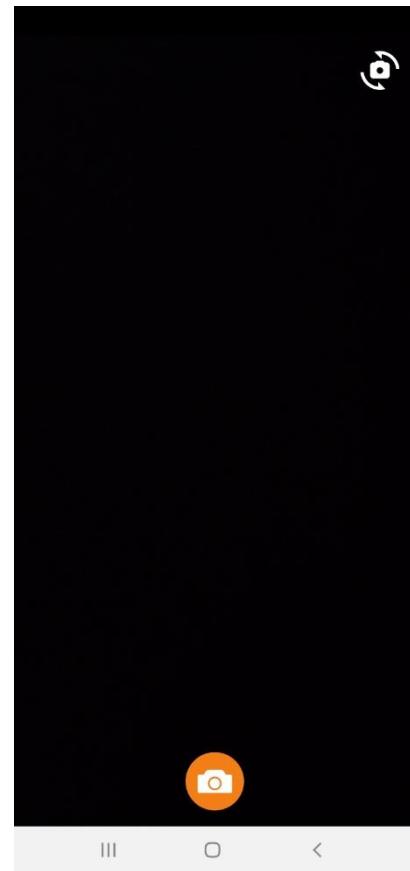
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Gambar 11. Main and Translator Page

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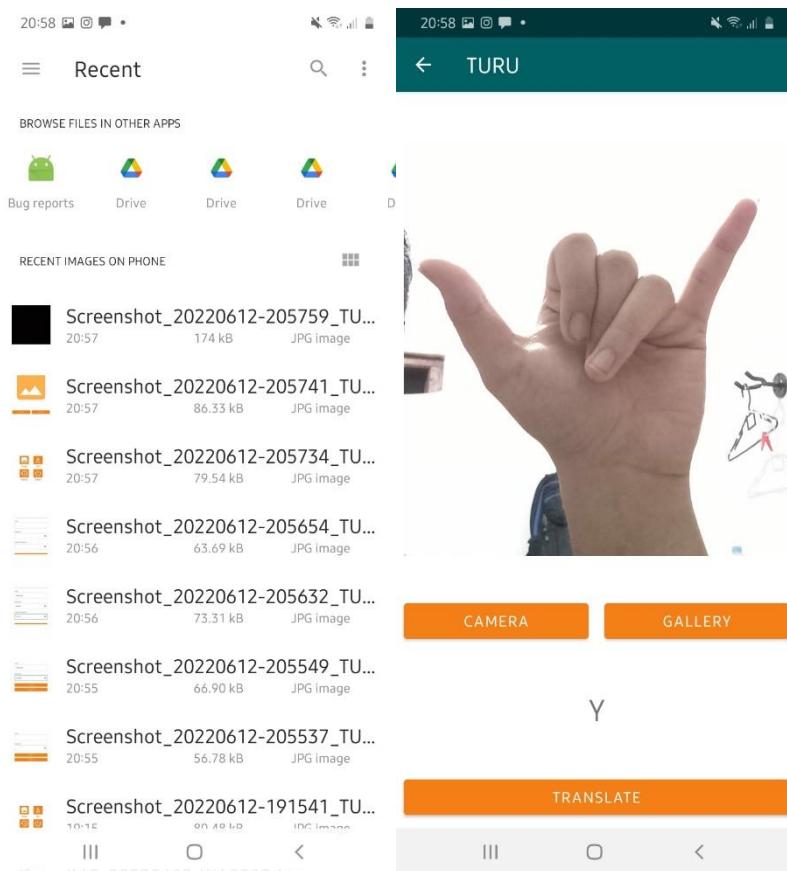
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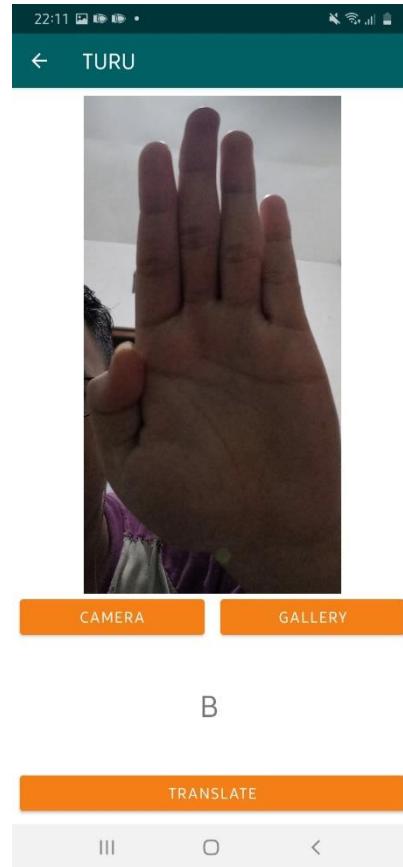
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Gambar 12. Uploading Image



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The image shows a mobile application interface with two translation boxes. The left box has the word "TURU" and the right box has the word "Tes". Both boxes have "Translate" labels above them and orange "→" buttons to their right. Below these boxes is a video thumbnail showing a close-up of a person's hand pointing upwards. At the bottom of the screen are navigation icons: three vertical dots, a circle, a left arrow, three vertical dots, a circle, and a left arrow.

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Gambar 13. Text to Image Translation Page



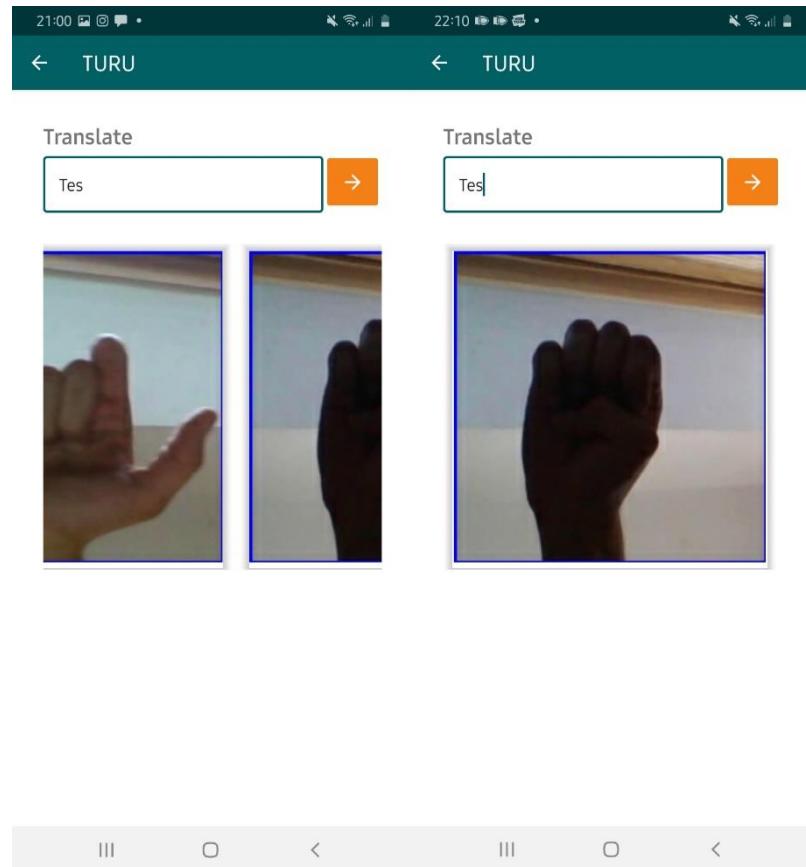
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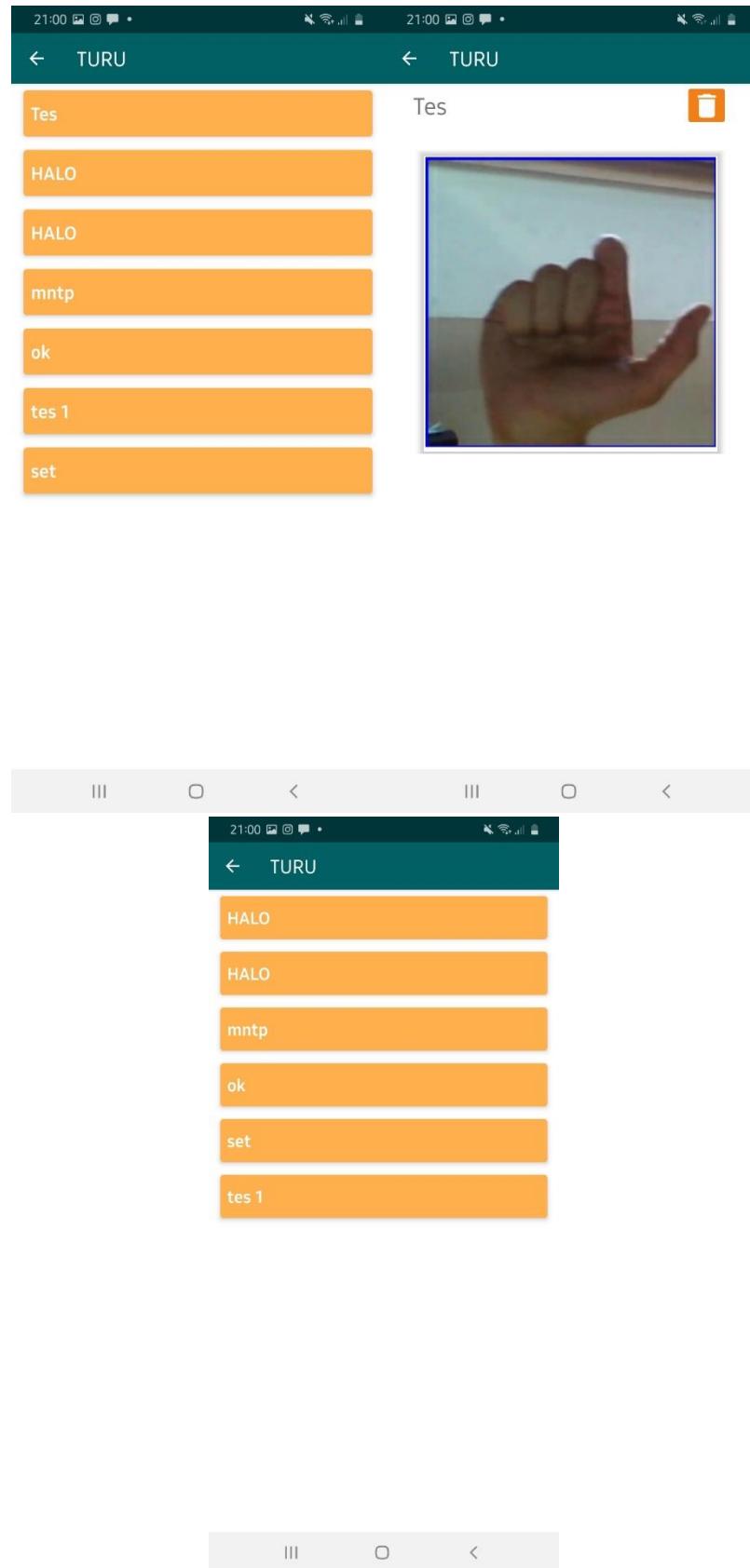


Gambar 14. Translation Result Page



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Gambar 15. History Page



### Dataset Link:

- [Dataset of American Sign Language RGB from Victor Geislinger | Kaggle](#)
- [Dataset of American Sign Language Alphabet from Akash | Kaggle](#)

### Deployed Link:

- [Public IP address of Back-End Application \(Compute Engine\)](#)
- [Private IP address of Database \(Cloud SQL\)](#)
- [File Storage \(Cloud Storage\)](#)
- [TuRu Application \(APK\)](#)

### Github Repo Link:

- [Back-End Application and ML Model](#)
- [Android Application](#)

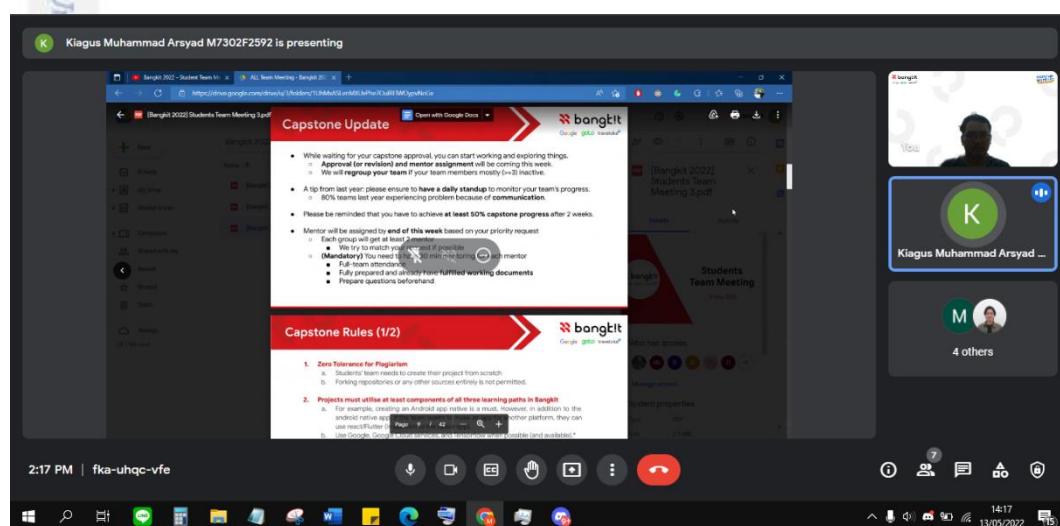
### 10-Min Video Presentation Link:

- [Final Capstone Project | Video Presentation \[C22-PS143\]](#)

### Slide Presentation Link(s):

- [Presentation slide](#)
- [Business Plan | Go-To-Market Proposal](#)

### Documentation(s):



Gambar 16. An example captured documentation

More details and video documentations can access this [Link](#).

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## LOGBOOK KEGIATAN MBKM

- Nama : Kiagus Muhammad Arsyad  
 NIM : 105219002  
 Program Studi : Ilmu Komputer  
 Jenis Kegiatan MBKM : Studi Independen Bersertifikat (SIB)  
 Instansi/Mitra MBKM : PT Presentologics  
 Judul Kegiatan : Bangkit Academy 2022 by Google, GoTo, Traveloka – Machine Learning Learning Path  
 1. Nama Pembimbing Instansi : Andi Muhammad Iqbal  
 NIP Pembimbing Instansi : -  
 Nama Dosen Pembimbing : Rangga Ganzar Noegraha, Ph.D.  
 NIP Dosen Pembimbing : 119005

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**Kembali**

**Dilengkapi Mentor**

**14 - 18 Feb 2022**

Minggu ke-1

S S R K J

**Apa yang kamu pelajari minggu ini?**

In my first week, on 14-18 of February 2022. This is my learning momentum will be started.

Start from:  
Day-1:  
I've got so many pre-activity information from today, which are:  
1) About a whole of the things from Bangkit 2022 program.  
2) Tips&Trick Unleash potential from GoTo  
3) What's new in Bangkit 2022  
4) Code of Conduct, Learning Method & Curriculum  
5) Info about ILT  
6) Technical Briefing (Start from about the platform/channel until the rules in joining the Bangkit)  
7) Bonus: Deadliner tips

Day-2:  
I learned and review the material of Programming Logic 101 in Dicoding. The topic discussed about what is the Logic and Algorithm also the differences from both of them, then about Logic Gate, and the last about Computational Thinking.

After that, I was continuing to read about Basic/Staring with Python Programming in Dicoding. I have learnt how to make a first installation and environment for Python Programming language in my PC, and the last I've learnt the Basic of Python.

Day-3:  
I got the information for my first assignment in the Learning. Which is self-paced session or independent study with Basic Programming of Python's material. I was continuing the class from yesterday, and for the progress I have learnt until the input/output operation in Python. Eventhough, it is be like I am in reviewing the material, but still need to be more focus and don't be quickly in learning.

I just know how the code of Python programming language have its style, suchlike indentation with 4 spaces, then how the programmers need to behave in typing the code because there are guide that tells about the rows, comment and documentation changing. After that, I learned about data type until the operation and expressions.

Beside that, I also learned in the outside of this topic which is English lesson. I have learnt in the YouTube platform, with the material about how to make a sentence, got some golden rules, and the structure of sentences. My plan after this, I will learn about Tenses. I realized, my english is so bad, so for the preparation before I get the English's lesson from Bangkit, I need to prepare at least with the basic material that I have learnt. I can enjoy and not really confused when I joined in the class later on.

Day-4:  
I was focusing in the Basic Python lesson in Dicoding. Continuing my last study, start from:  
- Control Flow, then  
- Error Handling  
- Function and Method  
- Object Oriented Programming  
- Unit Testing  
- Popular Library in Python, and  
- Finish the material with final test/exam

These materials, overall understand, but I got stuck and still confused about the Unit Testing. To handle my confusion, I need to learn more about Unit Testing of Python in another reference's learning. After that, some of the Knowledge test that held in every last of sub-chapter I got tricky question, from this case I have got this experience, so I can anticipate and more focus in facing the obstacles ahead/in the future. The last, I've submitted the first assignment.

Day-5:  
I've open the course of Python in Coursera and scheduling my time for the learning time. Also, a little bit material about English.

So, I hope from my first week, I can more be prepared well in the next week for my learning journey.

[sembunyikan](#)

---

Senin  
14 Feb 2022

**Apa yang kamu kerjakan hari ini?**

I've got so many pre-activity information from today, which are:  
1) About a whole of the things from Bangkit 2022 program.  
2) Tips&Trick Unleash potential from GoTo  
3) What's new in Bangkit 2022  
4) Code of Conduct, Learning Method & Curriculum  
5) Info about ILT  
6) Technical Briefing (Start from about the platform/channel until the rules in joining the Bangkit)  
7) Bonus: Deadliner tips

[sembunyikan](#)

---

Selasa  
15 Feb 2022

**Apa yang kamu kerjakan hari ini?**

Today, I learned and review the material of Programming Logic 101 in Dicoding. The topic discussed about what is the Logic and Algorithm also the differences from both of them, then about Logic Gate, and the last about Computational Thinking.

[se lengkapnya](#)

---

Rabu  
16 Feb 2022

**Apa yang kamu kerjakan hari ini?**

Today recently I got the information for my first assignment in the Learning. Which is self-paced session or independent study with Basic Programming of Python's material. I was continuing the class from yesterday, and for the progress I have learnt until the input/output operation in Python. Eventhough, it is be like I am in reviewing the material, but still need to be more focus and don't be quickly in learning.

I just know how the code of Python programming language have its style, suchlike indentation with 4 spaces, then how the programmers need to behave in typing the code because there are guide that tells about the rows, comment and documentation changing. After that, I learned about data type until the operation and expressions.

Beside that, I also learned in the outside of this topic which is English lesson. I have learnt in the YouTube platform, with the material about how to make a sentence, got some golden rules, and the structure of sentences. My plan after this, I will learn about Tenses. I realized, my english is so bad, so for the preparation before I get the English's lesson from Bangkit, I need to prepare at least with the basic material that I have learnt. I can enjoy and not really confused when I joined in the class later on.

[sembunyikan](#)

---

Kamis  
17 Feb 2022

**Apa yang kamu kerjakan hari ini?**

Today, I was focusing in the Basic Python lesson in Dicoding. Continuing my last study, start from:  
- Control Flow, then  
- Error Handling  
- Function and Method  
- Object Oriented Programming  
- Unit Testing  
- Popular Library in Python, and  
- Finish the material with final test/exam

These materials, overall understand, but I got stuck and still confused about the Unit Testing. To handle my confusion, I need to learn more about Unit Testing of Python in another reference's learning. After that, some of the Knowledge test that held in every last of sub-chapter I got tricky question, from this case I have got this experience, so I can anticipate and more focus in facing the obstacles ahead/in the future.

Final statement.  
Alhamdulillah, I've submitted my first assignment. I do hope I can be more better and focus than before especially in the Python Programming.

[sembunyikan](#)

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Jumat  
18 Feb 2022

**Apa yang kamu kerjakan hari ini?**

I've open the course of Python in Coursera and scheduling my time for the learning time. Also, a little bit material about English.



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**Kembar**  
21 - 25 Feb 2022

Apakah pertama kali menggunakan?

I'm second week, on 21-27 of February 2022, my learning still to be continued.

Day-1

I've planned no take time for my learning of Course, here are my notes in beginning. I was so happy when I learned about Python's syntax and what it means! I was so happy because there was a video appeared on my screen. I was so happy because there was a script at the bottom of video. Then, the motivation has supported me to continue my learning, ahaandaaa! I hope will not feel boring on the learning.

Day-2

Wednesday, unfortunately was extremely dry. I need to have break, so I postponed to do not have a focus learning. But, even though I have a break for today, I just read the literature electronic in the internet, also see the update from Bangga.

Then, Friday campus, I have to argue about the new semester preparation with handle the KSH problem. My teacher of Python participation, and increase a guardship with my supervisor. Discusing about the new semester preparation and argue with my supervisor.

Day-3

Third day, I'm continuing lesson about Basic Python Syntax, Functions, and Conditionals.

Many things I've learned from those lesson, which are:

- How to implement what loops in the continuity of execute code
- Understanding the difference between the differences of data types in utilize the variables
- Defining and calling function with parameters and return data
- Refactoring the code and write comments to make easier if there is complexity and develop the code readability and reusability
- Comparing the values using operator of equality & logic
- Using basic function and keywords
- Comparing the values using operator of equality & logic

After that, in the afternoon I used the last 1/2 lesson, in this session there was an instructor to review up for all of the materials from Python basic syntax until basic commands.

Day-5 (These days)

These are the material and what I've done in 5 days.

Friday (25/02)

-- (jelaskan aktivitas: Weekly Consultation and Thursday Appreciation) that held by my campus

- Comparing my learning
- Group
- Manipulation with indexing, slicing, and formating
- Using basic function and keywords to manipulate the data
- Leveraging dictionary to store more complex data. Keys reference the data, and storing manipulate data
- Comparing the values using operator of equality & logic

GDP Object - Oriented Programming

- Demonstrating object-oriented programming with class and object

Sabtu (26/02)

-- Continue the learning

GDP

- Implementing the classes with custom attributes and methods
- Writing the docstrings for documenting the classes and methods

Preparing of Final Project

- Tackling the first problem from the general assignment framework
- Formulating a problem statement to understand the needs and outputs of a script such like documentation
- Considering the research into options for tackling the problem
- Planning an approach to solve the problems
- Writing a complete script in order to implement a solution

Sunday (27/02)

-- Finish the final project of Crash Course on Python (Course) with one try, without cheatsheet and stackoverflow

- Recruit the activities to make report 2 days to do the report
- Continue the course for my new learning focus Course of 2 of which "Using Python to work with the Operating System"

-----

So I hope from now I've learned and pass for this week, I can perform well in the next week.

sembarukan

---

**Sensi**  
27 Feb 2022

Apakah pertama kali menggunakan?

Today, I'm doing the first day of the class I planned to teach continue my learning in Course for the first time. In the beginning, I was so happy when I learn the Course Python and the Course part of course because Full Right! Hello BUT, when take the lesson, there was a video appeared on my screen. I was so happy because there was a script at the bottom of video. Then, the motivation has supported me to continue my learning, ahaandaaa! I hope will not feel boring until the final project.

So, today, I've completed the first Module/Week Materials of Crash Course on Python. For the material, I've learned about:

- How to use the Course Platform and the resource
- Defining programming language and what syntax and semantics is
- Defining and calling function with example of automation apply
- The works of Python basic syntax and the different focus use with another language
- Using basic function and keywords
- Comparing the values using operator of equality & logic
- Using basic function and keywords

sembarukan

---

**Ratu**  
27 Feb 2022

Apakah pertama kali menggunakan?

Today, I'm continuing my lesson about Basic Python Syntax, Functions, and Conditionals.

Many things I've learned from those lesson, which are:

- How to implement what loops in the continuity of execute code
- Understanding the difference between the differences of data types in utilize the variables
- Defining and calling function with parameters and return data
- Refactoring the code and write comments to make easier if there is complexity and develop the code readability and reusability
- Comparing the values using operator of equality & logic
- Using basic function and keywords

sembarukan

---

**Kembar**  
24 Feb 2022

Apakah pertama kali menggunakan?

Today, I'm continuing my learning about different ways to perform repetitive tasks while loops, for loops, and while loops.

Many things I've learned from those lesson, which are:

- How to implement while loops in the continuity of execute code
- Understanding the difference between the differences of data types in utilize the variables
- Refactoring the code and write comments to make easier if there is complexity and develop the code readability and reusability
- Comparing the values using operator of equality & logic
- Using basic function and keywords

After that, in the afternoon I used the last 1/2 lesson, in this session there was an instructor to review up for all of the materials from Python basic syntax until basic commands. Unfortunately, I just learned until the material 1 today which looping, so when the class started at the end of session, some student questions I can't answer yet. I just think the experience besides of my problem can't finish the environment to answer or do a pack discussion on the remaining point of Course.

sembarukan

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**Jamil**  
25 Feb 2022

Apakah pertama kali menggunakan?

Continuing my learning for today, because I'm not quite enough of my learning on Saturday and today is not included in the report.

So, many things I've learned and like spectrum but still slowly through in mean of the materials. These are the material and what I've done in 3 days.

Friday (25/02)

-- (jelaskan aktivitas: Weekly Consultation and Thursday Appreciation) that held by my campus

- Comparing my learning
- Group
- Manipulation with indexing, slicing, and formating
- Using lists and tuples to store, reference, and manipulate the data
- Leveraging dictionary to store more complex data. Keys reference the data, and storing manipulate data
- Comparing the values using operator of equality & logic

GDP Object - Oriented Programming

- Demonstrating object-oriented programming with class and object

Sabtu (26/02)

-- Continue the learning

GDP

- Implementing the classes with custom attributes and methods
- Writing the docstrings for documenting the classes and methods

Preparing of Final Project

- Tackling the first problem from the general assignment using a framework
- Formulating a problem statement to understand the needs and outputs of a script such like documentation
- Considering the research into options for tackling the problem
- Planning an approach to solve the problems
- Writing a complete script in order to implement a solution

Sunday (27/02)

-- Finish the final project of Crash Course on Python (Course) with one try, without cheatsheet and stackoverflow

- Recruit the activities to make report 2 days to do the report
- Continue the course for my new learning focus Course of 2 of which "Using Python to work with the Operating System"

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**Kembali**

Dilanjutkan Mentor

**28 Feb - 04 Mar 2022**

Hingga ke-3

S S R K J

Apa yang kamu pelajari minggu ini?

In my first week of March, on 28 Feb-1-6 of March 2022. My learning still to be continued.

Start from Day-1:

I continued my lesson in the second courses, with the material about Getting Your Python On.

With the materials

- Having an understanding of the different operating systems
- Utilizing Python environment and install another modules for Python
- Running Python with local on the machines
- Understanding the benefits of automation and awareness about the pitfalls

Day-2

Completed all assessments through Qwiklab.

After that, I got bunch of knowledge and motivation from these two activities, which are:

- 1) First Day of Student Supplies from Kampus Merdeka Team, with the material start from the basic such like the background motivation in joining MSIB's program, Logbook, working culture, tips during the activity, Chief and CoC, Kampus Merdeka account management. And then the main session is coming from Mas Dave that discussed about Do's and Don'ts in doing join the activity, the reports, and many others.
- 2) 2nd ILT: Softskill Time Management) that taught by Bu Rabiatul Adereyah. We learned about 5 pillars of time management, example of being disciplined in real life, how to enforcing self-discipline, Four Quadrants of Time Management, knowing 2 sources of distraction, and capacity planning.

Day-3

I've learned in the Course about OS

- Understanding how to read, write, and iterate through files
- Utilizing the concept of managing files
- Know how to create the directories and navigate it through directories

Also, there was a session (Pembekalan Mahasiswa Program MSIB Angkatan 2 - Hari Kedua), many things that I learned from Dave and others inspiring people from ex-Bangkit Students

- How to manage the time and energy
- Defining leadership is and the typical of leadership
- Leadership role
- About Tribes, that contain of 4 main points what we will get, which are connection, opportunity, self-development, and friends
- The inspiring story and the kinda of struggle what they face in the past

Day-4

Continued my learning

- Defining what CSV files are and be able to read
- Understanding the way how to write and make edits to CSV files within directories
- Defining what a regular expression is and the use of regular expression
- Utilizing basic regular expression like simple matching or wildcard and character classes

Day-5

I joined Weekly Consultation with our Facilitator. We discussed about what to do in the next, many QnA about the final project even still 2-3 weeks ), and then doing the code challenge.

Then, continued my learn:

- Understanding how to create directories and navigate through directories
- Defining CSV files are and be able to read from them
- Understanding the way to write and make edits to CSV files within directories
- Defining what a regular expression
- Utilizing some basic regular expression examples
- Understanding detail of repetition qualifiers
- Utilizing advanced regular expressions and understand the exercise that can be used in real-life

\*\*\*\*\*

I hope I can do my best than before, know about the differences between expectation and realization.

[sembunyikan](#)

**Sabtu**

28 Feb 2022

Apa yang kamu kerjakan hari ini?

Today, I continued my lesson in the second courses, with the material about Getting Your Python On.

With the materials

- Having an understanding of the different operating systems
- Utilizing Python environment and install another modules for Python
- Running Python with local on the machines
- Understanding the benefits of automation and awareness about the pitfalls

[sembunyikan](#)

**Selasa**

1 Mar 2022

Apa yang kamu kerjakan hari ini?

As usual, I continued my learning from yesterday, which is complete all assessments through Qwiklab.

After that, I got bunch of knowledge and motivation from these two activities, which are:

- 1) First Day of Student Supplies from Kampus Merdeka Team, with the material start from the basic such like the background motivation in joining MSIB's program, Logbook, working culture, tips during the activity, Chief and CoC, Kampus Merdeka account management. And then the main session is coming from Mas Dave that discussed about Do's and Don'ts in doing join the activity, the reports, and many others.
- 2) 2nd ILT: Softskill Time Management) that taught by Bu Rabiatul Adereyah. We learned about 5 pillars of time management, example of being disciplined in real life, how to enforcing self-discipline, Four Quadrants of Time Management, knowing 2 sources of distraction, and capacity planning

[sembunyikan](#)

**Rabu**

2 Mar 2022

Apa yang kamu kerjakan hari ini?

I've learned in the Course about OS

- Understanding how to read, write, and iterate through files
- Utilizing the concept of managing files
- Know how to create the directories and navigate it through directories

Also, there was a session (Pembekalan Mahasiswa Program MSIB Angkatan 2 - Hari Kedua), many things that I learned from Dave and others inspiring people from ex-Bangkit Students

- How to manage the time and energy
- Defining leadership is and the typical of leadership
- Leadership role
- About Tribes, that contain of 4 main points what we will get, which are connection, opportunity, self-development, and friends
- The inspiring story and the kinda of struggle what they face in the past

[sembunyikan](#)

**Kamis**

3 Mar 2022

Apa yang kamu kerjakan hari ini?

Continued my learning

- Defining what CSV files are and be able to read
- Understanding the way how to write and make edits to CSV files within directories
- Defining what a regular expression is and the use of regular expression
- Utilizing basic regular expression like simple matching or wildcard and character classes

[sembunyikan](#)

**Jumat**

4 Mar 2022

Apa yang kamu kerjakan hari ini?

On this Friday, I joined Weekly Consultation with our Facilitator. We discussed about what to do in the next, many QnA about the final project even still 2-3 weeks ), and then doing the code challenge.

Continuing my learn:

- Understanding how to create directories and navigate through directories
- Defining CSV files are and be able to read from them
- Understanding the way to write and make edits to CSV files within directories
- Defining what a regular expression
- Utilizing some basic regular expression examples
- Understanding detail of repetition qualifiers
- Understanding advanced regular expressions and understand the exercise that can be used in real-life

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**07 – 11 Mar 2022**

Minggu ke-4

S	S	R	K	J
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Apa yang kamu pelajari minggu ini?

In my second week of March, on 7-11 of March 2022. My learning still to be continued.

Start from:

Day-1:  
I joined the Mandatory activity which is Team Meeting 1. With mas Yoza and kak Deti, discussed about:  

- Bandkit 2022 Communication channel
- Score Percentage
- Tech and Softskill ILT (Quiz and other rules)
- Students Dashboard
- Protocol and Cohort Guide
- ILT Feedback recap

Also continuing my learned to finish Operating System course.

Day-2:  
Continuing my learning for the third course about Introduction to Git and Github.  
  
Also I joined the second ILT about "Python IT Automation - Git Collaboration, Troubleshooting, and Intro to Cloud" with kak Rahmat Fajri from Dicoding. We discussed a lot of in relate about VCS, Github, and then another talking.

Day-3:  
Continuing my lesson with Git, and learn another resources.  
  
I joined English Spoken Correspondence, learn about:  

- Phone Conversation
- SWIN Formula Usage
- The aspect of Clarity, Follow Up, Accepting/Rejecting a Request
- Hosting
- Deferring/Agreeing To a Decision
- Giving Negative Information
- Business Call Role-Play

Day-4:  
Exercising my learning for the third course about Introduction to Git and Github.  
  
How to handle collaboration with well, and learned about:  

- Recognizing how to create, update, and execute pull requests on GitHub
- Recognizing what a code review is and be able to utilize the code review workflow
- Exploring how to use code reviews in GitHub

Day-5:  
Continuing the description from yesterday:  

- Knowing the importance of managing projects and accepting or rejecting changes
- Utilizing issue trackers
- Recognizing the methodology behind continuous integration
- Finishing the course

Then, I continue to the fourth course about Troubleshooting and Debugging Techniques.

I also joined the Weekly Consultation with Kan Andi Igbal, discussed about the usual reminder, project, ask about the report of Kampus Merdeka, and sharing session.

====

I hope I can manage the strategy in term of achieve at the end of chapter learning.

[sembunyikan](#)

Apa yang kamu kerjakan hari ini?

In this first day of the week, I joined the Mandatory activity which is Team Meeting 1. With mas Yoza and kak Deti, discussed about:  

- Bandkit 2022 Communication channel
- Score Percentage
- Tech and Softskill ILT (Quiz and other rules)
- Students Dashboard
- Protocol and Cohort Guide
- ILT Feedback recap

Also continuing my learned to finish Operating System course.

[sembunyikan](#)

Apa yang kamu kerjakan hari ini?

Continuing my learning for the third course about Introduction to Git and Github.  
  
Also I joined the second ILT about "Python IT Automation - Git Collaboration, Troubleshooting, and Intro to Cloud" with kak Rahmat Fajri from Dicoding. We discussed a lot of in relate about VCS, Github, and then another talking.

[sembunyikan](#)

Apa yang kamu kerjakan hari ini?

Continuing my lesson with Git, and learn another resources.  
  
I joined English Spoken Correspondence, learn about:  

- Phone Conversation
- SWIN Formula Usage
- The aspect of Clarity, Follow Up, Accepting/Rejecting a Request
- Hosting
- Deferring/Agreeing To a Decision
- Giving Negative Information
- Business Call Role-Play

[sembunyikan](#)

Apa yang kamu kerjakan hari ini?

Continuing the description from yesterday:  

- Recognizing how to create, update, and execute pull requests on GitHub
- Recognizing what a code review is and be able to utilize the code review workflow
- Exploring how to use code reviews in GitHub
- Knowing the importance of managing projects and accepting or rejecting changes
- Utilizing issue trackers
- Recognizing the methodology behind continuous integration
- Finishing the course

Then, I continue to the fourth course about Troubleshooting and Debugging Techniques.

Today, I also joined the Weekly Consultation with Kan Andi Igbal, discussed about the usual reminder, project, ask about the report of Kampus Merdeka, and sharing session.

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 Kembari  
14 Mar 2022

Apa yang kamu pelajari minggu ini?

In my third week of March, on 14-18 of March 2022, My learning still to be continued.

Start from Day 1:

- I continued my learn in the fourth course "Troubleshooting and Debugging Techniques"
- Know about Debugging
- Understanding a Problem such like finding the root cause
- Binary Searching a Problem
- Understanding Slowness
- Know about Slow Code and when Slowness problems get complex
- Program and Code Crash
- Handling Bigger Incidents

Also in the same day, I joined Softskill LT "Professional Branding & Interview" with Mas Yuditha Dian Putra

Discussed a lot about the topic, such like
 

- Be able to create a strong professional branding
- Recognize the importance of professional networking,
- Be prepared to communicate effectively during interviews

Day 2:

- Continued my last course learning
- Managing Computer Resources and Our Time
- How to Making Our Future Lives Easier
- Free Courses

Then continue to Fifth Course "Configuration Management and the Cloud" about:

- What is Automation at Scale
- Know about Puppet
- Building Blocks of Configuration Management
- Deploying Puppet Locally
- Deploying Puppet to Remote Clients
- Updating Deployments
- Cloud Computing
- Managing Instances in the Cloud
- Automating Cloud Deployments

Day 3:

- Continued my last course such:
  - Building Software for the Cloud
  - Monitoring and Alerting
  - Troubleshooting and Debugging
- Finished the course

And then THE FINAL in Sixth Course/Capstone, such Big Boss for me. There are four challenges from each week with total 4 weeks.

Week 1: Scale and convert images using PIL (Finish with 1 try)

Week 2: Process Text Files with Python Dictionaries and upload to Running Web Service (Finish with 2 tries)

Week 3: Automatically Generate a PDF and send by Email (Finish with 2 tries)

Week 4: Automatic updating catalog information (Finish with 1 try)

Day 4:

Special for this day, I was refreshing my mind because what I've done yesterday as a self reward, but just see for a while about what Course as my second Chapter Learning Path and enroll those classes (Google Data Analytics and Mathematics for Machine Learning)

And also, I joined the Weekly Consultation with my facilitator, discuss about the common topic that we usually discussed such as deadline, report reminder, etc.

Day 5:

- Continued my learning for the new Program: Mathematics for Machine Learning. Team about:
- Recalling how machine learning and vectors and matrices are related
- Interpreting how changes in the model parameters affect the quality of the fit to the training data
- Recognizing that variations in the model parameters are vectors on the response surface - that vectors are geometric concepts not limited to physical space
- Using substitution / elimination to solve a fairly easy linear algebra problem
- Understanding how to add vectors and multiply by a scalar number
- Calculating basic operations (dot product, modulus, regularization) on vectors
- Calculating a change of basis
- Recalling linear independence
- Understanding what basis and how it relates to the dimensionality of the space
- Understanding what a matrix is and how it corresponds to a transformation
- Explaining and calculate inverse and determinant of matrices
- Identifying and explain how to find inverses computationally and what goes wrong

\*\*\*\*\*

I hope I can do the well learning in this new program, especially practice my brain to count and calculate in this math learning.

[semburyikan](#)

 Sardin  
14 Mar 2022

Apa yang kamu pelajari minggu ini?

Today I continued my learn the fourth course "Troubleshooting and Debugging Techniques"

Know about Debugging

Understanding a Problem such like finding the root cause

- Binary Searching a Problem

Understanding Slowness

- Know about Slow Code and when Slowness problems get complex

- Program and Code Crash

- Handling Bigger Incidents

Also, in the same day, I joined Softskill LT "Professional Branding & Interview" with Mas Yuditha Dian Putra

Discussed a lot about the topic, such like
 

- Be able to create a strong professional branding
- Recognize the importance of professional networking,
- Be prepared to communicate effectively during interviews

Then, continue to Fifth Course "Configuration Management and the Cloud" about:

- What is Automation at Scale
- Know about Puppet
- Building Blocks of Configuration Management
- Deploying Puppet Locally
- Deploying Puppet to Remote Clients
- Updating Deployments
- Cloud Computing
- Managing Instances in the Cloud
- Automating Cloud Deployments

But in this course, I can't to try myself in my local computer for Puppet and GCP, because of system requirement and description for GCP

[semburyikan](#)

 Selasa  
15 Mar 2022

Apa yang kamu pelajari minggu ini?

Continued my last course learning

- Managing Computer Resources and Our Time
- How to Making Our Future Lives Easier
- Finished this course

Then, continue to Fifth Course "Configuration Management and the Cloud" about:

- What is Automation at Scale
- Know about Puppet
- Building Blocks of Configuration Management
- Deploying Puppet Locally
- Deploying Puppet to Remote Clients
- Updating Deployments
- Cloud Computing
- Managing Instances in the Cloud
- Automating Cloud Deployments

But in this course, I can't to try myself in my local computer for Puppet and GCP, because of system requirement and description for GCP

[semburyikan](#)

 Rabu  
16 Mar 2022

Apa yang kamu pelajari hari ini?

Continued my last course such:
 

- Building Software for the Cloud
- Monitoring and Alerting
- Troubleshooting and Debugging

Also, in the same day, I joined Softskill LT "Professional Branding & Interview" with Mas Yuditha Dian Putra

Discussed a lot about the topic, such like
 

- Be able to create a strong professional branding
- Recognize the importance of professional networking,
- Be prepared to communicate effectively during interviews

It's so challenging and make me must to be growing up again. :)"

[semburyikan](#)

 Kamis  
17 Mar 2022

Apa yang kamu pelajari hari ini?

Special for today, I was refreshing my mind because what I've done yesterday as a self reward, but just see for a while about what Course as my second Chapter Learning Path and enroll those classes (Google Data Analytics and Mathematics for Machine Learning)

And also, I joined the Weekly Consultation with my facilitator, discuss about the common topic that we usually discussed such as deadline, report reminder, etc.

[semburyikan](#)

 Jumat  
18 Mar 2022

Apa yang kamu pelajari hari ini?

I continued my learning for the new Program: Mathematics for Machine Learning. Team about:

- Recalling how machine learning and vectors and matrices are related
- Interpreting how changes in the model parameters affect the quality of the fit to the training data
- Recognizing that variations in the model parameters are vectors on the response surface - that vectors are geometric concepts not limited to physical space
- Using substitution / elimination to solve a fairly easy linear algebra problem
- Understanding how to add vectors and multiply by a scalar number
- Calculating basic operations (dot product, modulus, regularization) on vectors
- Calculating a change of basis
- Recalling linear independence
- Understanding what basis and how it relates to the dimensionality of the space
- Understanding what a matrix is and how it corresponds to a transformation
- Explaining and calculate inverse and determinant of matrices
- Identifying and explain how to find inverses computationally and what goes wrong

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6



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**21 - 25 Mar 2022**

Minggu ke-6







**Apa yang kamu pelajari minggu ini?**

In my fourth week of March, on 21-25 of March 2022. My learning still to be continued with the new theme which is about MATH.

Start from Day-1:

I continued my last course from last week such:

- Identifying matrices as operators
- How to relate the transformation matrix to a set of new basis vectors
- How to Formulate code for mappings based on these transformation matrices
- Writing the code to find an orthonormal basis set computationally

Day-2:

Continued my last course learning:

- Identifying geometrically what an eigenvector/value is
- Applying mathematical formulation in simple cases
- How to build an intuition of larger dimension eigensystems
- Writing the code to solve a large dimensional eigen problem

Day-3:

Finished my first course of Math for ML about Linear Algebra, and review also recalling back what I've learned in this first course.

In the afternoon, I joined ILT Mathematics for Machine Learning with the instructor Mas Salsabil Maulana Akbar. It was really fun to discussed more about the fundamental usage of math for machine learning, how the way to implement that, and answer the questions about this topic.

Day-4:

Continue the lesson in my course, learned about Multivariate Calculus which are:

- What is calculus and its multivariate
- Application of Chain rule
- Taylor Series and Linearization
- Optimization Introduction
- Simple Regression

Day-5:

Finished my second course about Multivariate Calculus, and continue to the third course about Principal Component Analysis (PCA), which are:

- Statistics of Datasets
- Inner Products
- Orthogonal Projections
- Principal Component Analysis

Also, today I joined weekly consultation, even though in silent session but we have talk and discuss each other in the chat column.

On the Saturday and Sunday, I was struggling to complete some rest of quizzes and assignments that still need to improve, reach the maximum score, and learn my problem of mistake.

<====>

I hope I can learn more again in the previous course to maintain my knowledge and skill about what I've learned to.

[sembunyikan](#)

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 **Senin**  
21 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Continued my last course such:

- Identifying matrices as operators
- How to relate the transformation matrix to a set of new basis vectors
- How to Formulate code for mappings based on these transformation matrices
- Writing the code to find an orthonormal basis set computationally

[sembunyikan](#)

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 **Selasa**  
22 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Continued my last course learning:

- Identifying geometrically what an eigenvector/value is
- Applying mathematical formulation in simple cases
- How to build an intuition of larger dimension eigensystems
- Writing the code to solve a large dimensional eigen problem

[sembunyikan](#)

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 **Rabu**  
23 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Today, I finished my first course of Math for ML about Linear Algebra, and review also recalling back what I've learned in this first course.

In the afternoon, I joined ILT Mathematics for Machine Learning with the instructor Mas Salsabil Maulana Akbar. It was really fun to discussed more about the fundamental usage of math for machine learning, how the way to implement that, and answer the questions about this topic.

[sembunyikan](#)

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 **Kamis**  
24 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Continue the lesson in my course, learned about Multivariate Calculus which are:

- What is calculus and its multivariate
- Application of Chain rule
- Taylor Series and Linearization
- Optimization Introduction
- Simple Regression

[sembunyikan](#)

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 **Jumat**  
25 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Finished my second course about Multivariate Calculus, and continue to the third course about Principal Component Analysis (PCA), which are:

- Statistics of Datasets
- Inner Products
- Orthogonal Projections
- Principal Component Analysis

Also, today I joined weekly consultation, even though in silent session but we have talk and discuss each other in the chat column.

[sembunyikan](#)



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[Kembali](#)

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**28 Mar – 01 Apr 2022**

Minggu ke-7

S
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R
K
J

**Apa yang kamu pelajari minggu ini?**

In my last week of March, on March 28th 2022 - April 1st 2022: My learning has already in the context of Machine Learning Specialization, focused to learn about how to use TensorFlow.

Start from Day-1:  
 In the first day of this week, I enrolled new program which is about DeepLearning. AI TensorFlow Developer from DeepLearning AI.

- Start the point to learn about Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning which are:
- Monitoring the accuracy of the housing price predictions
- How to analyze housing price predictions that come from a single layer neural network
- Using TensorFlow to build a single layer neural network for fitting linear models

Day-2:  
 I got a new insight for the learning platform to learn Machine Learning with TensorFlow deeper, which is Machine Learning Crash Course with TensorFlow APIs from Google Developer with free during my learning. So, I just wanna know and follow the learning to add more knowledge, so my learning not only from Coursera, but supported by this platform also.

I was so happy, because this platform provide Dub Indonesia, so I can follow more clearly about what I've learned today.

Day-3:  
 Today, I continued my learning in the Coursera about:  

- Using callback functions for tracking model loss and accuracy during training
- How to predict the layer size affects network predictions and training speed
- Implementing pixel value normalization to speed up network training
- How to build a multilayer neural network for classifying the Fashion MNIST image dataset

Day-4:  
 Continued my learning in Coursera which are:  

- How to use callback functions to interrupt training after meeting a threshold accuracy
- Testing the effect of adding convolution and MaxPooling to the neural network for classifying Fashion MNIST images on classification accuracy
- Explaining and visualizing how convolution and MaxPooling aid in image classification tasks

Day-5:  
 Continued my learning about:  

- How to reflect on the possible shortcomings of your binary classification model implementation
- Executing image preprocessing with the Keras ImageDataGenerator functionality
- How to carry out real life image classification by leveraging a multilayer neural network for binary classification

Also today, I joined Weekly Consultation to discuss about the reminder, new issue, and some of problem in submission.

<====>  
 I hope I can learn as much as possible related to Machine Learning.

[sembunyikan](#)

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**Senin**  
28 Mar 2022

**Apa yang kamu kerjakan hari ini?**

In the first day of this week, I enrolled new program which is about DeepLearning. AI TensorFlow Developer from DeepLearning AI.

Start the point to learn about Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning which are:

- Monitoring the accuracy of the housing price predictions
- How to analyze housing price predictions that come from a single layer neural network
- Using TensorFlow to build a single layer neural network for fitting linear models

[sembunyikan](#)

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**Selasa**  
29 Mar 2022

**Apa yang kamu kerjakan hari ini?**

During my learning, I got a new insight for the learning platform to learn Machine Learning with TensorFlow deeper, which is Machine Learning Crash Course with TensorFlow APIs from Google Developer with free. So, I just wanna know and follow the learning to add more knowledge, so my learning not only from Coursera, but supported by this platform also.

I was so happy, because this platform provide Dub Indonesia, so I can follow more clearly about what I've learned today.

[sembunyikan](#)

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**Rabu**  
30 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Today, I continued my learning in the Coursera about:  

- Using callback functions for tracking model loss and accuracy during training
- How to predict the layer size affects network predictions and training speed
- Implementing pixel value normalization to speed up network training
- How to build a multilayer neural network for classifying the Fashion MNIST image dataset

[sembunyikan](#)

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**Kamis**  
31 Mar 2022

**Apa yang kamu kerjakan hari ini?**

Continued my learning in Coursera which are:  

- How to use callback functions to interrupt training after meeting a threshold accuracy
- Testing the effect of adding convolution and MaxPooling to the neural network for classifying Fashion MNIST images on classification accuracy
- Explaining and visualizing how convolution and MaxPooling aid in image classification tasks

[sembunyikan](#)

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**Jumat**  
1 Apr 2022

**Apa yang kamu kerjakan hari ini?**

Continued my learning about:  

- How to reflect on the possible shortcomings of your binary classification model implementation
- Executing image preprocessing with the Keras ImageDataGenerator functionality
- How to carry out real life image classification by leveraging a multilayer neural network for binary classification

Also today, I joined Weekly Consultation to discuss about the reminder, new issue, and some of problem in submission.

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 Disetujui Mentor

**04 – 08 Apr 2022**

Minggu ke-8

S S R K J

**Apakah kamu pelajar minggu ini?**

In my first week of April, on April 4th-8th 2022. I learn a new thing in TensorFlow and join many other sessions.

Start from Day-1

In the first day of this week, I finished first course of Introduction to Tensorflow. Many materials I've got from this course, especially in term of function and how to use it in some cases.

Also, today I joined Weekly Consultation, discuss about the usual reminder and preparation for tomorrow's activity.

Day-2

Continued my learning about:

- How to gain understanding about Keras' utilities for pre-processing image data, in particular the ImageDataGenerator class
- Developed helper functions to move files around the filesystem so that they can be fed to the ImageDataGenerator

Also, I joined ILT session about Tensorflow in Practice, this session run smoothly also I get engage to participate this.

Day-3

In third day, this is important day and reminding for me because there is activity which is Team Meeting. In this meeting, I got a lot of new information which are:

- Capstone Project Briefing
- Student Monthly Recap (Progress + ILT Feedback)
- Reward System & First Challenge
- QA

I also directly participate the challenge to make a video about Time Management.

Day-4

I joined a session about English Session: Expressing Opinions with the instructor Kathryn Grace.

A lot of interesting experience in this learning, the instructor also so really fun in her teaching. I also participate actively in this session even though my english haven't good enough for now. I got the knowledge related to Expressing Opinions such as:

- Asking for an opinion
- Stating an opinion
- Expressing agreement
- Expressing disagreement
- Giving Feedback/Advice

Day-5

Continued my learning about:

- Learned how to plot training and validation accuracies to evaluate model performance
- How to build a classifier using convolutional neural networks for performing cats vs dogs classification

<====>

I hope I can learn as much as possible related to Machine Learning.

[sembunyikan](#)

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 Senin  
4 April 2022

**Apakah kamu kerjakan hari ini?**

Today, I finished first course of Introduction to Tensorflow.

Many materials I've got from this course, especially in term of function and how to use it in some cases.

Also, today I joined Weekly Consultation, discuss about the usual reminder and preparation for tomorrow's activity.

[sembunyikan](#)

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 Selasa  
5 April 2022

**Apakah kamu kerjakan hari ini?**

Today, I continued my learning about:

- How to gain understanding about Keras' utilities for pre-processing image data, in particular the ImageDataGenerator class
- Developed helper functions to move files around the filesystem so that they can be fed to the ImageDataGenerator

Also, I joined ILT session about Tensorflow in Practice, this session run smoothly also I get engage to participate this.

[sembunyikan](#)

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 Rabu  
6 April 2022

**Apakah kamu kerjakan hari ini?**

Today, this is important day and reminding for me because there is activity which is Team Meeting. In this meeting, I got a lot of new information which are:

- Capstone Project Briefing
- Student Monthly Recap (Progress + ILT Feedback)
- Reward System & First Challenge
- QA

I also directly participate the challenge to make a video about Time Management.

[sembunyikan](#)

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 Kamis  
7 April 2022

**Apakah kamu kerjakan hari ini?**

Today, I joined a session about English Session: Expressing Opinions with the instructor Kathryn Grace.

A lot of interesting experience in this learning, the instructor also so really fun in her teaching. I also participate actively in this session even though my english haven't good enough for now. I got the knowledge related to Expressing Opinions such as:

- Asking for an opinion
- Stating an opinion
- Expressing agreement
- Expressing disagreement
- Giving Feedback/Advice

[sembunyikan](#)

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 Jumat  
8 April 2022

**Apakah kamu kerjakan hari ini?**

I continued my learning about:

- Learned how to plot training and validation accuracies to evaluate model performance
- How to build a classifier using convolutional neural networks for performing cats vs dogs classification



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**Kembal**  
 Disajikan Mentor  
**11 - 15 Apr 2022**

Minggu ke- 9

S E R K J

Apa yang kamu pelajari minggu ini?

In my second week of April, on April 11th-15th 2022, I continued my learning in course DeepLearning AI TensorFlow Developer, also there are a lot of information and activity related to capstone especially Company-based.

Start from Day-1

- In the first day of this week, I continued my learning with a little fast than before, what I learned are:
- How to recognize the impact of adding image augmentation to the training process, particularly in time
- Demonstrated overfitting or lack of by plotting training and validation accuracies
- How to familiarize with the ImageDataGenerator parameters used for carrying out image augmentation
- How to mitigate overfitting by using data augmentation techniques
- Master the keras layer type known as dropout to avoid overfitting
- How to achieve transfer learning in code using the keras API
- How to code a model that implements Keras' functional API instead of the commonly used Sequential model
- Learn how to freeze layers from an existing model to successfully implement transfer learning
- Explored the concept of transfer learning to use the convolutions learned by a different model from a larger dataset
- How to build a multiclass classifier for the SignLanguage MNIST dataset
- Learn how to begin to set up the ImageDataGenerator parameters and the model definition functions for multiclass classification
- Understanding the difference between using actual image files vs images encoded in other formats and how this changes the methods available when using ImageDataGenerator
- How to code a helper function to parse a raw CSV file which contains the information of the pixel values for the images used

Also for today, I joined some session related about Company Capstone, and build the team and have a discussion with them.

Day-2

- I began the new course (third course) about Natural Language Processing in TensorFlow. What I've learned which are:
- the Tokenizer and pad\_sequences API in TensorFlow and know how they can be used to prepare and encode text and sentences to get them ready for training neural networks
- What is embeddings, understand sentiment in text, train a neural network on texts that are labelled positive or negative and determining which words in a sentence drive those meanings
- Understand context in sequence
- How to use and make sequence models and literature

Also today, I joined LT softskill session about Adaptability, and in the night I was making a gathering discussion to prepare and submit the proposal for company capstone.

Day-3

- In third day, I continued my learning about:
- Define and understand what is sequences and prediction
- Know what the implementation of Deep Neural Networks for time series
- How to recurrent Neural Networks for time series
- Know what is real-world time series data

I also directly participate the challenge to make a video about Time Management.

Day-4

- What I've learned from third course and last course from DeepLearning AI TensorFlow Developer. I just focus to finish all the assignments in a day.
- There are some problem and difficulties when work the assignment, but alhamdulillah I did it and make the course has pass.

Day-5

- I enrolled a new course about TensorFlow Data and Deployment, and see the preview what I will learn later on.
- Also today, I get to refresh my mind with review what I've learned in the last course.

\*\*\*\*\*

I hope I can learn as much as possible related to Machine Learning.

[sembunyikan](#)

**Senin**  
**11 Apr 2022**

Apa yang kamu kerjakan hari ini?

Today, I continued my learning with a little fast than before, what I learned are

- How to recognize the impact of adding image augmentation to the training process, particularly in time
- Demonstrated overfitting or lack of by plotting training and validation accuracies
- How to familiarize with the ImageDataGenerator parameters used for carrying out image augmentation
- How to mitigate overfitting by using data augmentation techniques
- Master the keras layer type known as dropout to avoid overfitting
- How to achieve transfer learning in code using the keras API
- How to code a model that implements Keras' functional API instead of the commonly used Sequential model
- Learn how to freeze layers from an existing model to successfully implement transfer learning
- Explored the concept of transfer learning to use the convolutions learned by a different model from a larger dataset
- How to build a multiclass classifier for the SignLanguage MNIST dataset
- Learn how to begin to set up the ImageDataGenerator parameters and the model definition functions for multiclass classification
- Understanding the difference between using actual image files vs images encoded in other formats and how this changes the methods available when using ImageDataGenerator
- How to code a helper function to parse a raw CSV file which contains the information of the pixel values for the images used

Also for today, I joined some session related about Company Capstone, and build the team and have a discussion with them.

[sembunyikan](#)

**Selasa**  
**12 Apr 2022**

Apa yang kamu kerjakan hari ini?

For today, I began in the new course (third course) about Natural Language Processing in TensorFlow. What I've learned which are

- the Tokenizer and pad\_sequences API in TensorFlow and know how they can be used to prepare and encode text and sentences to get them ready for training neural networks
- What is embeddings, understand sentiment in text, train a neural network on texts that are labelled positive or negative and determining which words in a sentence drive those meanings
- Understand context in sequence
- How to use and make sequence models and literature

Also today, I joined LT softskill session about Adaptability, and in the night I was making a gathering discussion to prepare and submit the proposal for company capstone.

[sembunyikan](#)

**Rabu**  
**13 Apr 2022**

Apa yang kamu kerjakan hari ini?

Today, I continued my learning about:

- Define and understand what is sequences and prediction
- Know what the implementation of Deep Neural Networks for time series
- How to recurrent Neural Networks for time series
- Know what is real-world time series data

[sembunyikan](#)

**Kamis**  
**14 Apr 2022**

Apa yang kamu kerjakan hari ini?

Special for today, what I've learned from third course and last course from DeepLearning AI TensorFlow Developer. I just focus to finish all the assignments in a day.

There are some problem and difficulties when work the assignment, but alhamdulillah I did it and make the course has pass.

[sembunyikan](#)

**Jumat**  
**15 Apr 2022**

Apa yang kamu kerjakan hari ini?

Today, I enrolled a new course about TensorFlow Data and Deployment, and see the preview what I will learn later on.

Also today, I get to refresh my mind with review what I've learned in the last course.



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Kembalii

Olivia Mewes  
18 - 22 Apr 2022

Pengguna: 10

Apa yang kamu pelajari minggu ini?

It's my third week of April, on April 18th - 22nd 2022, I started with new learning course about TensorFlow: Data and Deployment. Start from this week, for the new course about TensorFlow: Data and Deployment, I will have a plan to learn the material first for all of weeks, then in the second week I have focused to do the assignment and test.

Day-1

- So far this week I've learned about Browser-based Models with TensorFlow.js which are:
  - How to use TensorFlow.js to build and train simple machine learning models in JavaScript
  - Describing the key characteristics of one-hot encoding
  - Using TensorFlow.js to load data from a CSV file
  - Using TensorFlow.js to visualize the output of a database
  - Implementing a convolutional neural network to build a handwriting classifier
  - Using a sprite sheet to train a classifier
  - How to use the TensorFlow.js converter to convert a TensorFlow model to JSON format
  - Implementing a binary model to determine if a phrase is toxic in a number of categories
  - How to use TensorFlow.js to detect objects in images

Next sub-course about Device-based Models with TensorFlow Lite. I also learn about:
 

- Device and how TensorFlow Lite works under the hood
- Describing how TensorFlow Lite works
- Explain how GPU delegates work
- Explain the Optimization techniques available in TensorFlow Lite
- Understanding how to convert a TensorFlow.js model into Android app
- Create an Android app that performs image classification
- Create an Android app that performs object detection

Day-2

Today I continued my learn about:
 

- Understanding how to incorporate a TensorFlow Lite model into iOS app
- Create an iOS app that performs image classification
- Create an iOS app that performs object detection
- Understanding how to incorporate a TensorFlow Lite model into the Raspberry Pi

Then next course about Data Pipelines with TensorFlow Data Services, which are:
 

- Understanding what is Data Pipeline, How it works and Block, Paper and Extensions, and execute extract and transform tasks by loading and extracting these in TensorFlow Data Services
- Analyze the metadata and information of each dataset
- Create a Federated pipeline for mode training
- Cache and Federate training data
- Reinforce your knowledge of TensorFlow Data Services API with the practice quiz
- Apply your data pipeline building skills in the assignment by creating a complete ETL pipeline using the TensorFlow API, and defining a simple ODEH model which can be trained later on

Day-3

Continuing my learn about:
 

- Complete Python slicing operation with Spiffs API
- Explore TFRandom and individual samples in a dataset
- Investigate feature descriptions
- Identify descriptions of the Spiffs API to create custom dataset splits and examine TFRandom and Feature descriptions which help you gain more information about your dataset
- Load a pre-trained TensorFlow model and create a validation set splits using Spiffs API which makes it easier to load data for training and evaluation in your ML pipeline
- Use different libraries and techniques to report your data into new training pipelines
- Cache and Federate training data
- Create different feature columns using functions like bucketizing, hashing and tokenizing
- Compare and contrast different data types present in TensorFlow Data class with the practice quiz while executing extract and transform tasks by loading and extracting these in TensorFlow Data Services
- Apply various data operations in the assignment to create different types of feature columns which you see frequently in different ML problem statements, compile and train them on a custom csv dataset that is loaded into memory
- Identify bottlenecks in your input pipelines
- Improve your pipelines impacting your model's training
- Load and share your own datasets using TensorFlow Hub
- Develop your intuition towards using best practices with the first quiz to identify bottlenecks in input and training pipelines and mitigate them using caching and pre-allocation
- Publish and share your own datasets using TensorFlow Hub
- Identify bottlenecks in your input pipelines
- Improve your pipelines impacting your model's training
- Load and share your own datasets using TensorFlow Hub
- Develop your intuition towards using best practices with the first quiz to identify bottlenecks in input and training pipelines and mitigate them using caching and pre-allocation
- Publish and share your own datasets using TensorFlow Hub

Day-4

Continuing my learn about:
 

- TF Serving as another deployment option for the model and ways to install it
- Building a model and deploying to TF Serving
- Passing data into TF Serving
- Looking into a more complex model using the Fashion-MNIST dataset
- Stamp pre-trained models with TensorFlow Hub
- Overview of Federated Learning
- Graphics and visualization
- Privacy and masking
- Intro and APIs of Federated Learning

Tujuh! Continue as much as possible related to Machine Learning and be more focus.

sembunyikan

Sentri 14 Apr 2022

Apa yang kamu pelajari minggu ini?

This day I continued my learn about:
 

- Train a model in your browser by using images captured via a webcam
- Apply transfer learning to train a model to recognize hand gestures of rock, paper, and scissors
- Apply transfer learning to train a model to recognize hand gestures of rock, paper, scissor, lizard, and spock

sembunyikan

Salwa 19 Apr 2022

Apa yang kamu pelajari minggu ini?

This day I continued my learn about:
 

- Train a model in your browser by using images captured via a webcam
- Apply transfer learning to train a model to recognize hand gestures of rock, paper, and scissors
- Apply transfer learning to train a model to recognize hand gestures of rock, paper, scissor, lizard, and spock

sembunyikan

Rafiq 20 Apr 2022

Apa yang kamu pelajari minggu ini?

Continuing my learn about:
 

- Understanding how to incorporate a TensorFlow Lite model into iOS app
- Create an iOS app that performs image classification
- Create an iOS app that performs object detection
- Understanding how to incorporate a TensorFlow Lite model into the Raspberry Pi

Then next course about Data Pipelines with TensorFlow Data Services, which are:
 

- Understanding what is Data Pipeline, How it works and Block, Paper and Extensions, and execute extract and transform tasks by loading and extracting these in TensorFlow Data Services
- Analyze the metadata and information of each dataset
- Create a Federated pipeline for mode training
- Cache and Federate training data
- Reinforce your knowledge of TensorFlow Data Services API with the practice quiz
- Apply your data pipeline building skills in the assignment by creating a complete ETL pipeline using the TensorFlow API, and defining a simple ODEH model which can be trained later on

sembunyikan

Karmi 21 Apr 2022

Apa yang kamu pelajari minggu ini?

Continuing my learn about:
 

- Complete Python slicing operation with Spiffs API
- Explore TFRandom and individual samples in a dataset
- Investigate feature descriptions
- Identify descriptions of the Spiffs API to create custom dataset splits and examine TFRandom and Feature descriptions which help you gain more information about your dataset
- Load a pre-trained TensorFlow model and create a validation set splits using Spiffs API which makes it easier to load data for training and evaluation in your ML pipeline
- Use different libraries and techniques to report your data into new training pipelines
- Cache and Federate training data
- Create different feature columns using functions like bucketizing, hashing and tokenizing
- Compare and contrast different data types present in TensorFlow Data class with the practice quiz while executing extract and transform tasks by loading and extracting these in TensorFlow Data Services
- Apply various data operations in the assignment to create different types of feature columns which you see frequently in different ML problem statements, compile and train them on a custom csv dataset that is loaded into memory
- Identify bottlenecks in your input pipelines
- Improve your pipelines impacting your model's training
- Load and share your own datasets using TensorFlow Hub
- Develop your intuition towards using best practices with the first quiz to identify bottlenecks in input and training pipelines and mitigate them using caching and pre-allocation
- Publish and share your own datasets using TensorFlow Hub
- Identify bottlenecks in your input pipelines
- Improve your pipelines impacting your model's training
- Load and share your own datasets using TensorFlow Hub
- Develop your intuition towards using best practices with the first quiz to identify bottlenecks in input and training pipelines and mitigate them using caching and pre-allocation
- Publish and share your own datasets using TensorFlow Hub

sembunyikan

Jumat 22 Apr 2022

Apa yang kamu pelajari minggu ini?

Continuing my learn about:
 

- TF Serving as another deployment option for the model and ways to install it
- Building a model and deploying to TF Serving
- Passing data into TF Serving
- Looking into a more complex model using the Fashion-MNIST dataset
- Stamp pre-trained models with TensorFlow Hub
- Overview of Federated Learning
- Graphics and visualization
- Privacy and masking
- Intro and APIs of Federated Learning

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**Kembal**

**Disetujui Mentor**

**25 - 29 Apr 2022**

Minggu ke-II

S S R K J

**Apa yang kamu pelajari minggu ini?**

In the last week of April, on April 25th - 29th 2022. As what I've planned before in the last week, so for this week I will continue my course learning to do the assignment and quiz.

**Day-1:**  
For today, I've finished my assignment and quiz with total 3 weeks from sub-course about Browser-based Models with TensorFlow.js. With the assignment/quiz:  
1) How try to build and train a neural network that can predict from new data whether the diagnosis is malignant or benign and how to train your network using the given CSV data.  
2) How try to build and train a neural network that can classify the images in the Fashion MNIST dataset.  
3) Trained a neural network to classify images of Cats and Dogs and how to save model as a Keras HDF5 file, and then using the TensorFlow.js converter to convert it to JavaScript.

**Day-2:**  
This day, I continued my assignment/quiz, with the total 3 weeks:  
1) How to train the model in the browser using webcam. Also trained the model in exactly the same way as in the Rock, Paper, Scissors example but include the Lizard and Spock hand gestures too.

Next to the sub-course of Device-based Models with TensorFlow Lite, which are:  
2) How to train a model that can classify images of articles of clothing from the popular Fashion MNIST dataset. After that convert the trained model to TF Lite format where it could be used on a mobile or embedded system.  
3) Do the rest of all quizzes in the course, Week 2-4.

**Day-3:**  
Get into another sub-course about Data Pipelines with TensorFlow Data Services. I've did 2 weeks assignment which are:  
1) Using TFDs with Rock, Paper and Scissors  
2) Transfer Learning and Splits API

**Day-4:**  
Continued the assignment with total 4 weeks about:  
1) Classify Structured Data and how to implement it.  
2) Parallelizing various stages of the Extract, Transform and Load processes with TFDs.  
Continue to the last sub-course:  
3) Classify Structured Data and how to implement it.  
4) Parallelizing various stages of the Extract, Transform and Load processes with TFDs.

**Day-5:**  
Today, I've finished all of the weeks also did all of my quizzes.

Because today, is the last for learn about TensorFlow Data and Deployment. I have to review again all of the materials from this course.

<====>  
I hope I can understand what I've learned so far.

[sembunyikan](#)

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**Senin**  
25 Apr 2022

**Apa yang kamu kerjakan hari ini?**

As what I've planned before in the last week, so for this week I will continue my course learning to do the assignment and quiz.

For today I've finished my assignment and quiz with total 3 weeks from sub-course about Browser-based Models with TensorFlow.js. With the assignment/quiz:  
1) How try to build and train a neural network that can predict from new data whether the diagnosis is malignant or benign and how to train your network using the given CSV data.  
2) How try to build and train a neural network that can classify the images in the Fashion MNIST dataset.  
3) Trained a neural network to classify images of Cats and Dogs and how to save model as a Keras HDF5 file, and then using the TensorFlow.js converter to convert it to JavaScript.

[sembunyikan](#)

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**Selasa**  
26 Apr 2022

**Apa yang kamu kerjakan hari ini?**

Continued my assignment/quiz, with the total 3 weeks:  
1) How to train the model in the browser using webcam. Also trained the model in exactly the same way as in the Rock, Paper, Scissors example but include the Lizard and Spock hand gestures too.

Next to the sub-course of Device-based Models with TensorFlow Lite, which are:  
2) How to train a model that can classify images of articles of clothing from the popular Fashion MNIST dataset. After that convert the trained model to TF Lite format where it could be used on a mobile or embedded system.  
3) Do the rest of all quizzes in the course, Week 2-4.

[sembunyikan](#)

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**Rabu**  
27 Apr 2022

**Apa yang kamu kerjakan hari ini?**

Get into another sub-course about Data Pipelines with TensorFlow Data Services. I've did 2 weeks assignment which are:  
1) Using TFDs with Rock, Paper and Scissors  
2) Transfer Learning and Splits API

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**Kamis**  
28 Apr 2022

**Apa yang kamu kerjakan hari ini?**

Continued the assignment with total 2 weeks about:  
1) Classify Structured Data and how to implement it.  
2) Parallelizing various stages of the Extract, Transform and Load processes with TFDs.

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**Jumat**  
29 Apr 2022

**Apa yang kamu kerjakan hari ini?**

Today, I've finished all of the weeks. I forgot to included my last sub-course assignment for yesterday, which are:  
1) Create models for TensorFlow Hub.  
2) Train a convolutional neural network to classify images of the Fashion MNIST dataset and use TensorBoard to explore how it's confusion matrix evolves over time.  
Also, I've did all of my quizzes.

Because today, is the last for learn about TensorFlow Data and Deployment. I have to review again all of the materials from this course.

[sembunyikan](#)

[Kembali](#)

 Disetujui Mentor

02 - 06 Mei 2022

Minggu ke-12



#### Apa yang kamu pelajari minggu ini?

Special for this week, because there was a big event for moslem which is Ied Fitri, so in the first three days, I didn't do anything related to my study because focused on this.

After a few day in celebrating Ied Fitri, I continued my schedule to prepare Capstone Project with my team. Also, we've discussed about the plan and fill the form, then we submit our plan project with theme "Character-Building & Community Empowerment" with title "Turu (Translator Tuna Rungu)". After that, we've discussed in WAG about the agenda will come later on. Also, to remind each other to have a good condition along the project begin.

[sembunyikan](#)

 Senin  
2 Mei 2022

Apa yang kamu kerjakan hari ini?  
Libur nasional

 Selasa  
3 Mei 2022

Apa yang kamu kerjakan hari ini?  
Libur nasional

 Rabu  
4 Mei 2022

Apa yang kamu kerjakan hari ini?  
Libur nasional

 Kamis  
5 Mei 2022

Apa yang kamu kerjakan hari ini?  
After a few day in celebrating Ied Fitri, I continued my schedule to prepare Capstone Project with my team. Also, we've discussed about the plan and fill the form, then we submit our plan project with theme "Character-Building & Community Empowerment" with title "Turu (Translator Tuna Rungu)"

 Jumat  
6 Mei 2022

Apa yang kamu kerjakan hari ini?  
After that, we've discussed in WAG about the agenda will come later on. Also, to remind each other to have a good condition along the project begin.

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[Kembali](#)

[Disetujui Mentor](#)

**09 - 13 Mei 2022**

Minggu ke-13

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S
R
K
J

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[sembunyikan](#)

**Apa yang kamu pelajari minggu ini?**

In the second week of May, on May 9th - 13th 2022. This week will be filled by activity related to planning and preparation of Capstone Project.

Start from first day our team for capstone project will have to progress according to plan, have a discussion with WhatsApp Group and Virtual Meeting with routine. Then in the next day, I search how the way to implement Machine Learning with review the material about Browser-based Models with TensorFlow.js and Device-based Models with TensorFlow Lite.

When D-Day of Weekly Consultation, I joined Weekly Consultation as usual, discussed about Capstone Project preparation, and have another question related about it. Beside that, I asked about what will we have to prepare to join Team Meeting for tomorrow.

After that, in the middle of weekday, there is an agenda "Team Meeting 3", discussed about:

- Google Certification
- 3rd Softskill Challenge
- Bangkit 2022 Career Fair
- 3rd & 4th Milestone recap

Also many kinds of QnA at the time of meeting.

Last day of the week, I have a discussion and briefing with my team about my fixed plan in meeting case, when will be have a meeting? Is that routine? What we're gonna talk in discussion? Many other question that delivered by my members of capstone project.

At the end, we decide to held the discussion every night on Monday, Wednesday, and Friday. Each discussion, will discuss about the progress from each Learning Path / Specialization, what have we developed? Build? and something else.

[sembunyikan](#)

**Senin**  
9 Mei 2022

**Apa yang kamu kerjakan hari ini?**

Start from this week, our team for capstone project will have to progress according to plan, have a discussion with WhatsApp Group and Virtual Meeting with routine.

**Selasa**  
10 Mei 2022

**Apa yang kamu kerjakan hari ini?**

Today, I search how the way to implement Machine Learning with review the material about Browser-based Models with TensorFlow.js and Device-based Models with TensorFlow Lite.

**Rabu**  
11 Mei 2022

**Apa yang kamu kerjakan hari ini?**

Today, I joined Weekly Consultation as usual, discussed about Capstone Project preparation, and have another question related about it. Beside that, I asked about what will we have to prepare to join Team Meeting for tomorrow.

**Kamis**  
12 Mei 2022

**Apa yang kamu kerjakan hari ini?**

Today, there is an agenda "Team Meeting 3", discussed about:

- Google Certification
- 3rd Softskill Challenge
- Bangkit 2022 Career Fair
- 3rd & 4th Milestone recap

Also many kinds of QnA at the time of meeting.

[sembunyikan](#)

**Jumat**  
13 Mei 2022

**Apa yang kamu kerjakan hari ini?**

For today, I have a discussion and briefing with my team about my fixed plan in meeting case, when will be have a meeting? Is that routine? What we're gonna talk in discussion? Many other question that delivered by my members of capstone project.

At the end, we decide to held the discussion every night on Monday, Wednesday, and Friday. Each discussion, will discuss about the progress from each Learning Path / Specialization, what have we developed? Build? and something else.

[sembunyikan](#)



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[Kembali](#)

Disetujui Mentor

**16 – 20 Mei 2022**

Minggu ke-14

S S R K J

Apa yang kamu pelajari minggu ini?

In the third week of May, on May 16th - 20th 2022. This week will be filled by activity related to daily standup routine meeting.

On last week, we already decide to held the discussion every night on Monday, Wednesday, and Friday. So, start from on Monday, we will do our activity routine to keep on update about our team's progress. After that in the night, me and my team, because this is the first daily standup, I chosen as a leader for this team. So yeah, start from Monday I have a new responsibility to keep update, remind each other, and manage the team also discussion for our team. Then, we discussed about a new idea that will be used for our project.

On Tuesday, I was searching and browsing about what application will be used for our base idea in the capstone project. Seeing the past alumnae history from Bangkit, what have they developed. What have they mostly built for their project, asking my facilitator about his experience, and many others. However, from that, I have some arguments and thought to bring them to tomorrow's discussion.

On Wednesday, I meet up with my team, to do our second daily standup routine. Btw, our idea is already fixed. It is about a sign language to help between normal and deaf people in communicate each other. This is what we've discussed about:

- Project Timeline
- GCP
- Making a GitHub for our project
- Sign Language
- Feature's plan

On Thursday, one of our members made many designs plan via Figma, starting from the logo, first page, login page, and main page. So, it helps to make an idea from that about the feature that we will make later on in our application. Also for this day, nothing much I do. I just responded to my team about code review and GitHub activity. Besides that, I keep on finding how to implement machine learning inside this application.

On Friday, we discussed about our first sight and problem for capstone project. In this session, I asked a question, about approval statement that a little bit late. Also, tonight, we have standup meeting, discussed about:

- Clarification about approval statement
- First week progress
- Minimum accuracy (ML)
- Mid-checkpoint info
- Endpoint, bookmark, Heroku deployment for database (CC)

[sembunyikan](#)

Senin  
16 Mei 2022

Apa yang kamu kerjakan hari ini?

Yesterday, we already decide to held the discussion every night on Monday, Wednesday, and Friday. So, start from today, we will do our activity routine to keep on update about our team's progress.

Tonight, me and my team, because this is the first daily standup, so we discuss who will be a leader for this team. Unexpectedly, I chosen as a leader for this team. So yeah, start from today I have a new responsibility to keep update, remind each other, and manage the team also discussion for our team. After that, we discussed about a new idea that will be used for our project.

[sembunyikan](#)

Selasa  
17 Mei 2022

Apa yang kamu kerjakan hari ini?

Today, I was searching and browsing about what application will be used for our base idea in the capstone project. Seeing the past alumnae history from Bangkit, what have they developed, what have they mostly built for their project, asking my facilitator about his experience, and many others.

However, from that, I have some arguments and thought to bring them to tomorrow's discussion.

[sembunyikan](#)

Rabu  
18 Mei 2022

Apa yang kamu kerjakan hari ini?

Today, I meet up with my team, to do our second daily standup routine. Btw, our idea is already fixed, it is about a sign language to help between normal and deaf people in communicate each other.

This is what we've discussed about:

- Project Timeline
- GCP
- Making a GitHub for our project
- Sign Language
- Feature's plan

[sembunyikan](#)

Kamis  
19 Mei 2022

Apa yang kamu kerjakan hari ini?

Last night, one of our members made many designs plan via Figma, starting from the logo, first page, login page, and main page. So, it helps to make an idea from that about the feature that we will make later on in our application.

Today, nothing much I do. I just responded to my team about code review and GitHub activity. Besides that, I keep on finding how to implement machine learning inside this application.

[sembunyikan](#)

Jumat  
20 Mei 2022

Apa yang kamu kerjakan hari ini?

When on wednesday, I attended my weekly consultation, we discussed about our first sight and problem for capstone project. In this session, I asked a question, about approval statement that a little bit late.

Also, tonight, we have standup meeting, discussed about:

- Clarification about approval statement
- First week progress
- Minimum accuracy (ML)
- Mid-checkpoint info
- Endpoint, bookmark, Heroku deployment for database (CC)

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**Kembali**

**Disetujui Mentor**

**23 - 27 Mei 2022**

Minggu ke-15

S	S	R	K	J

**Apa yang kamu pelajari minggu ini?**

In the fourth week of May, on May 23rd - 27th 2022. This week will be filled by activity related to daily standup routine meeting and other activities.

On Monday, as usual, we have daily standup of our capstone project and report how was progress from each of learning path (ML, CC, MD). We discussed about:

- Heroku development progress
- Some mockup in application
- Model and TFLite
- Backend process between CC and ML
- Capstone Working Document
- Mid-checkpoint
- First week progress
- Minimum accuracy (ML)
- Mid-checkpoint info
- Endpoint, bookmark, Heroku deployment for database (CC)

On Tuesday, because I have an event from my campus, so I focussed on attending Internship Socialization. This is a new thing for me, because this program doesn't give SKS for Intern (KP), so I need to prepare it to get an internship later on.

On Wednesday, I have a meeting with my lecturer, discussed about my calculus project report with her. After that, other activity what I did is check in my email, read some important information related to capstone project for this week's progress. Because many of us give a permission that can't join for today's meeting, so we decide postponed it until tomorrow.

On Thursday, as what we have agreed about postponed meeting last day, we have a daily standup meeting this afternoon. We discussed about:

- Model exploration and TFLite implementation
- Object detection
- TuRu API by Postman
- History and account
- Bangkit Capstone Team Info update
- Working Document

On Friday, I attended a non-mandatory with a speaker. This session will be presented by Laurence Moroney (Lead Artificial Intelligence Advocate, Google) - the guy who often appeared in my Coursera course because he is one of the instructors in that course. Many kinds that I have learned from him, the most point I got is what TensorFlow implements for this world and how useful it is. For team meeting update, we discussed about:

- Activation GCP with token from Bangkit
- Checkpoint report
- Model progress
- Mentoring's proposal

[sembunyikan](#)

**Senin**

**23 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

For today, as usual, we have daily standup of our capstone project and report how was progress from each of learning path (ML, CC, MD).

We discussed about:

- Heroku development progress
- Some mockup in application
- Model and TFLite
- Backend process between CC and ML
- Capstone Working Document
- Mid-checkpoint

[sembunyikan](#)

**Selasa**

**24 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

Today, because I have an event from my campus, so I focussed on attending Internship Socialization. This is a new thing for me, because this program doesn't give SKS for Intern (KP), so I need to prepare it to get an internship later on.

[sembunyikan](#)

**Rabu**

**25 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

Today, I have a meeting with my lecturer, discussed about my calculus project report with her. After that, other activity what I did is check in my email, read some important information related to capstone project for this week's progress.

Because many of us give a permission that can't join for today's meeting, so we decide postponed it until tomorrow.

[sembunyikan](#)

**Kamis**

**26 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

As what we have agreed about postponed meeting, we have a daily standup meeting this afternoon.

We discussed about:

- Model exploration and TFLite implementation
- Object detection
- TuRu API by Postman
- History and account
- Bangkit Capstone Team Info update
- Working Document

[sembunyikan](#)

**Jumat**

**27 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

Today, I attended a non-mandatory with a speaker. This session will be presented by Laurence Moroney (Lead Artificial Intelligence Advocate, Google) - the guy who often appeared in my Coursera course because he is one of the instructors in that course. Many kinds that I have learned from him, the most point I got is what TensorFlow implements for this world and how useful it is.

For team meeting update, we discussed about:

- Activation GCP with token from Bangkit
- Checkpoint report
- Model progress
- Mentoring's proposal

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[Kembali](#)

**Disediakan Mentor**

**30 Mei – 03 Jun 2022**

Minggu ke-16

S	S	R	K	J

**Apa yang kamu pelajari minggu ini?**

In the last month of May, on May 30th - June 3rd 2022. This week will be filled by activity related to daily standup routine meeting and other activities.

On Monday, I told to my team that start for this week. I have additional class regularly in every night, so in previous day I gave confirmation about changing time for our daily standup. At the end, we agreed that our team meeting will be held at afternoon. Today, in our meeting, discussed about:

- Update GCP deployment from Heroku
- Status and condition about Rayhan
- TensorFlow Lite implementation
- Dataset

On Tuesday, because I have an event from my campus, so I focussed on attending Internship Socialization. This is a new thing for me, because this program doesn't give SKS for Intern (KP), so I need to prepare it to get an internship later on.

On Wednesday, I have team meeting with my team discussion meeting, about:

- Simulation of object detection from TensorFlow
- Confirmation about two letter of sign language 'J' and 'Z'
- GCP
- Mentoring problem
- Page update from mobile
- Rayhan's update

On Thursday, I attended to Weekly Consultation, and we discussed the progress of our capstone project. QnA about problems, especially for those teams who haven't got a response from mentor, also GCP credit for the Company project.

On Friday, some of our team can't attending for today's routine daily standup meeting. So, we decide to postpone it until tomorrow. This is our discussion on Saturday:

- Clarity about product capstone project team
- Changing dataset
- Model update
- Mobile update
- Mid-checkpoint

[sembunyikan](#)

**Senin**  
**30 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

Start for this week. I have additional class regularly in every night, so yesterday I gave confirmation about changing time for our daily standup. At the end, we agreed that our team meeting will be held at afternoon.

Today, in our meeting, discussed about:

- Update GCP deployment from Heroku
- Status and condition about Rayhan
- TensorFlow Lite implementation
- Dataset

[sembunyikan](#)

**Selasa**  
**31 Mei 2022**

**Apa yang kamu kerjakan hari ini?**

For today, I find how to implement a dataset, build a model, check a prediction, and convert to TFLite in preview. For the preparation, I saw a sign language case in Kaggle, and there are so many cases between implementation and also a dataset. From there, I can do what I should do for ML.

**Rabu**  
**1 Jun 2022**

**Apa yang kamu kerjakan hari ini?**

Discussion team meeting, about:

- Simulation of object detection from TensorFlow
- Confirmation about two letter of sign language 'J' and 'Z'
- GCP
- Mentoring problem
- Page update from mobile
- Rayhan's update

[sembunyikan](#)

**Kamis**  
**2 Jun 2022**

**Apa yang kamu kerjakan hari ini?**

I attended to Weekly Consultation, and we discussed the progress of our capstone project. QnA about problems, especially for those teams who haven't got a response from mentor, also GCP credit for the Company project.

**Jumat**  
**3 Jun 2022**

**Apa yang kamu kerjakan hari ini?**

Because today, some of our team can't attending for today's routine daily standup meeting. So, we decide to postpone it until tomorrow.

This is our discussion on Saturday:

- Clarity about product capstone project team
- Changing dataset
- Model update
- Mobile update
- Mid-checkpoint

[sembunyikan](#)

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[Disetujui Mentor](#)

**06 – 10 Jun 2022**

Minggu ke-17

S S R K J

Apa yang kamu pelajari minggu ini?

In the second week month of June, on June 6th - 10th 2022. This week will be filled by activity related to daily standup routine meeting and big update progress for project.

On Monday, also in this week, I continue discuss in routine meeting with my team, about the progress for each scopes. Also, discussed about one of my team that didn't active anymore until now. We've already made a model for the project, and prepare to convert it with TFLite.

On Tuesday, there is the fourth of Team Meeting, it was discussing about Monthly Milestone Recap, Capstone Update, and Soft Skills Challenges. A lot of questions also given by the cohorts, with many thing related about Capstone Project. I also has already converted our model to TFLite format, and sent it to GitHub. After this our project will be entering the final stage which is quite difficult.

On Wednesday, I had a meeting with my team about the progress, we've discussed about our model, cloud in GCP, and android progress. There are a lot discussion for today, especially about Team Meeting #4 that held on yesterday. Reminded the timeline and deadline, also target for our project to achieve an ending progress.

On Thursday, I build a revision of our model for our project, because yesterday our model still support grayscale picture only, so I have found a way to remake our model that can support RGB. If from the previous, the shape of image is  $(-1, x, x, 1)$ , so here it change become  $(-1, x, x, 3)$ . Also, I converted the model to TFLite that will be use for our MD member.

On Friday, we continued our routine, which is discussion meeting. It has around 75% for our project's progress, it still struggle on processing model to mobile with TFLite. Also there was an information coming in, the information is about the mentoring session that maybe will be held in the near future.

We do hope in this last of week, we can deploy our application with running well, so at the end we can present it for Final Deliverable's submission.

[sembunyikan](#)

Senin  
6 Jun 2022

Apa yang kamu kerjakan hari ini?

For this week, I continue discuss in routine meeting with my team, about the progress for each scopes. Also, discussed about one of my team that didn't active anymore until now. We've already made a model for the project, and prepare to convert it with TFLite.

Selasa  
7 Jun 2022

Apa yang kamu kerjakan hari ini?

For today, there is the fourth of Team Meeting, it was discussing about Monthly Milestone Recap, Capstone Update, and Soft Skills Challenges. A lot of questions also given by the cohorts, with many thing related about Capstone Project.

I also has already converted our model to TFLite format, and sent it to GitHub. After this our project will be entering the final stage which is quite difficult.

[sembunyikan](#)

Rabu  
8 Jun 2022

Apa yang kamu kerjakan hari ini?

For today, I had a meeting with my team about the progress, we've discussed about our model, cloud in GCP, and android progress. There are a lot discussion for today, especially about Team Meeting #4 that held on yesterday.

[selengkapnya](#)

Kamis  
9 Jun 2022

Apa yang kamu kerjakan hari ini?

Today, I build a revision of our model for our project, because yesterday our model still support grayscale picture only, so I have found a way to remake our model that can support RGB. If from the previous, the shape of image is  $(-1, x, x, 1)$ , so here it change become  $(-1, x, x, 3)$ .

Also, I converted the model to TFLite that will be use for our MD member.

[sembunyikan](#)

Jumat  
10 Jun 2022

Apa yang kamu kerjakan hari ini?

For today we continued our routine, which is discussion meeting. It has around 75% for our project's progress, it still struggle on processing model to mobile with TFLite. Also there was an information coming in, the information is about the mentoring session that maybe will be held in the near future.

We do hope in this last of week, we can deploy our application with running well, so at the end we can present it for Final Deliverable's submission.

[sembunyikan](#)

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< Kembali

Disetujui Mentor

13 - 17 Jun 2022

Minggu ke-18

S S R K J

Apa yang kamu pelajari minggu ini?

In the third week month of June, on June 6th - 10th 2022. This week will be filled by activity related to daily standup routine meeting and big update progress for project also TOP 53 news.

On Monday, is one of my big day because my team keep going on to finish our capstone project, which the deadline is at 11.59 a.m. Indeed, we also had time to stay up until the morning to record our presentation. Finally, we've already completed all of the things that we should submit with our Final Deliverables. Around 08.00 a.m., me with one of my friends have already edited the project brief, uploaded a video on Youtube, and fill the submission form.

On Tuesday, last day, I got an email from Bangkit with the subject "Online Learning #07 - Machine Learning - TensorFlow Certification Preparation". So, I redeemed a token to access that subject on Dicoding. After that, I see for a while what should I do to prepare for this Online Learning. After that, a full day for today, I have upgraded my LinkedIn too, because I think it will be useful for my career path later on.

On Wednesday, we were finding information about status of invitation Peer Presentation Schedule, because tomorrow is our day for us to present if based on the theme. While waiting, I informed to my team if we will have a short discussion meeting to prepare our presentation.

On Thursday, finally, in the morning, I have got an email from Bangkit about our presentation schedule. It will be held on 1-3pm with a host by Kak Deti. As our plan before, today we have the discussion meeting. I told to my team, to change or revise our words when delivering his own part for presentation, so it's not really same style and delivery in our record presentation before. While presentation time, Alhamdulillah, in the forth row, we have presented our project to audience with well.

On Friday, no exact activity because my condition is terrible, so I need to take a rest. Yeah, maybe this is because of my work before to achieve our plan before the deadline of the project capstone. Finally, all of them have been finished. Beside that, I do something else related to my work outside of Bangkit's matter.

Additional notes for this week, alhamdulillah, in the midnight of Friday, I got a good news that our team passed and chosen as TOP 53 for product capstone project. In the next day, me with my team joined the "Bangkit 2022 Product Capstone Top 53 Incubation Update & Project Continuation". So, we will prepare it for our presentation on Monday, we hope we can present it well and chosen as TOP 15 for incubation.

[sembunyikan](#)

Senin  
13 Jun 2022

Apa yang kamu kerjakan hari ini?

Today, is one of my big day because my team keep going on to finish our capstone project, which the deadline is today at 11.59 a.m.

Indeed, we also had time to stay up until the morning to record our presentation. Finally, we've already completed all of the things that we should submit with our Final Deliverables. Around 08.00 a.m., me with one of my friends have already edited the project brief, uploaded a video on Youtube, and fill the submission form. We do hope, our team can get the best score for this ^^

[sembunyikan](#)

Selasa  
14 Jun 2022

Apa yang kamu kerjakan hari ini?

Yesterday, I got an email from Bangkit with the subject "Online Learning #07 - Machine Learning - TensorFlow Certification Preparation". So, today, I redeemed a token to access that subject on Dicoding. After that, I see for a while what should I do to prepare for this Online Learning.

After that, a full day for today, I have upgraded my LinkedIn too, because I think it will be useful for my career path later on.

[sembunyikan](#)

Rabu  
15 Jun 2022

Apa yang kamu kerjakan hari ini?

Today, we were finding information about status of invitation Peer Presentation Schedule, because tomorrow is our day for us to present if based on the theme.

While waiting, I informed to my team if we will have a short discussion meeting to prepare our presentation.

Kamis  
16 Jun 2022

Apa yang kamu kerjakan hari ini?

Finally, in the morning, I have got an email from Bangkit about our presentation schedule. It will be held on 1-3pm with a host by Kak Deti. As our plan before, today we have the discussion meeting. I told to my team, to change or revise our words when delivering his own part for presentation, so it's not really same style and delivery in our record presentation before.

Presentation time, Alhamdulillah, in the forth row, we have presented our project to audience with well, we hope we can get best score.

[sembunyikan](#)

Jumat  
17 Jun 2022

Apa yang kamu kerjakan hari ini?

Today, no exact activity because my condition is terrible, so I need to take a rest. Yeah, maybe this is because of my work before to achieve our plan before the deadline of the project capstone. Finally, all of them have been finished.

Beside that, I do something else related to my work outside of Bangkit's matter.

[sembunyikan](#)

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Disetujui Mentor

**20 – 24 Jun 2022**

Minggu ke-19

S S R K J

**Apa yang kamu pelajari minggu ini?**

In the fourth week month of June, on June 20th - 24th 2022. This week will be filled by activity related to capstone project and my preparation for certification.

On Monday, there are two main things that I must do, which are Post English Assessment and 2nd Final Presentation. I prepare and manage my time wisely on that day, start from in the morning I did the assessment, and after dzuhri I prepare for my presentation, so when the presentation has started, I can show my presentation more better than before.

On Tuesday, I did another thing related to my project outside of Bangkit program. I have to prepare myself for my test tomorrow, I hope I can do my best.

On Wednesday, I focused and prepared for my selection of scholarship to get a Fast Track Program for Data Science Path, so this entire day I studied about basic math, discrete mathematics, statistics, and logical programming.

On Thursday, I finished my GitHub study at Dicoding, also I did my homework for TensorFlow Preparation. There a lot of list To Do that I need do in this two weeks. I hope I get do all of my To Do.

On Friday, many activities that I should attend. First, I joined Bangkit Alumni Sharing Session: Certification Preparation with my ML's Alumni Kak Iga Narendra. Second, actually I know if in the afternoon at 3.30pm is my Weekly Consultation, but because usually the Weekly Consultation held at 2pm, so I can't attend this weekly, yep because I need do my Asr prayer at that time. Third, I joined ILT softskill session about Startup Valuation & Investment Pitch. And last is I joined my english class.

[sembunyikan](#)



Senin

20 Jun 2022

**Apa yang kamu kerjakan hari ini?**

For today, there are two main things that I must do, which are Post English Assessment and 2nd Final Presentation. I prepare and manage my time wisely on that day, start from in the morning I did the assessment, and after dzuhri I prepare for my presentation, so when the presentation has started, I can show my presentation more better than before.

Alhamdulillah, I can do that with clearly, I hope my team can passed in TOP 15!

[sembunyikan](#)



Selasa

21 Jun 2022

**Apa yang kamu kerjakan hari ini?**

No exactly activity for today. I did another thing related to my project outside of Bangkit program. I have to prepare myself for my test tomorrow, I hope I can do my best.



Rabu

22 Jun 2022

**Apa yang kamu kerjakan hari ini?**

Now, I focused and prepared for my selection of scholarship to get a Fast Track Program for Data Science Path, so this entire day I studied about basic math, discrete mathematics, statistics, and logical programming.



Kamis

23 Jun 2022

**Apa yang kamu kerjakan hari ini?**

I finished my GitHub study at Dicoding, also I did my homework for TensorFlow Preparation. There a lot of list To Do that I need do in this two weeks. I hope I get do all of my To Do.



Jumat

24 Jun 2022

**Apa yang kamu kerjakan hari ini?**

Today, many activities that I should attend. First, I joined Bangkit Alumni Sharing Session: Certification Preparation with my ML's Alumni Kak Iga Narendra. Second, actually I know if in the afternoon at 3.30pm is my Weekly Consultation, but because usually the Weekly Consultation held at 2pm, so I can't attend this weekly, yep because I need do my Asr prayer at that time. Third, I joined ILT softskill session about Startup Valuation & Investment Pitch. And last is I joined my english class.

I'm so tired after did the activities today, I hope it can make my time management more better ehe..

[sembunyikan](#)

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[Kembali](#)

**Disetujui Mentor**

**27 Jun - 01 Jul 2022**

Minggu ke-20

S S R K J

**Apa yang kamu pelajari minggu ini?**

In the last week month of June, on June 27th - 1st of July 2022. This week will be filled by activity related to my assignment for preparation certification TF and others.

On Monday, I did my task for my softskill about Startup Valuation and Investment Pitch. I took an MVP from the previous task, about Environment Cleanliness. From that MVP, I made ~350–400 words for the Business Pitch, so I implemented what I've learn in the softskill class in this assignment.

On Tuesday, I do my submission for Prep TensorFlow Certification in Dicoding, sometimes a little bit easy, sometime quite hard, even though in my first submission got rejected. I learned and revised what The Reviewer told to me about my submission, finally I can pass for first part of submission. Next, continue to the second and third part of submission.

On Wednesday, I managed my time to prepare for on going activities, and also do my task as a lecturer assistant. After that, I keep on see the status of submission of my prep TF task in Dicoding.

On Thursday, I revised again for my Submission C and also progress on making Final Report. There was an info in the morning from mba Deti, it said "for those of you who already submitted the AAD/TF Prep class submission before the deadline, July 1st at midnight. You're safe. We will set July 1st as the deadline to submit it." So, I can be more seriously in submitting my submission later on if I got rejected again.

On Friday, I joined weekly consultation, discussed about Timeline and activities coming soon, such as Online Learning - ML, TensorFlow Preparation, and Professional Communications. Beside that, I still keep on update related to Review result for TensorFlow prep in Dicoding. After that, I joined ML Online Learning too. I hope I can more prepare for my TF Certification.

This is time for me to progress on my Final Report, and I hope I can make it on time, bring my last colloquium in the prepared condition, and become the best one.

[sembunyikan](#)

Senin  
27 Jun 2022

Apa yang kamu kerjakan hari ini?  
I did my task for my softskill about Startup Valuation and Investment Pitch. I took an MVP from the previous task, about Environment Cleanliness. From that MVP, I made ~350–400 words for the Business Pitch, so I implemented what I've learn in the softskill class in this assignment.

Selasa  
28 Jun 2022

Apa yang kamu kerjakan hari ini?  
I do my submission for Prep TensorFlow Certification in Dicoding, sometimes a little bit easy, sometime quite hard, even though in my first submission got rejected. I learned and revised what The Reviewer told to me about my submission, finally I can pass for first part of submission. Next, continue to the second and third part of submission.

Rabu  
29 Jun 2022

Apa yang kamu kerjakan hari ini?  
Today, I managed my time to prepare for on going activities, and also do my task as a lecturer assistant. After that, I keep on see the status of submission of my prep TF task in Dicoding.

Kamis  
30 Jun 2022

Apa yang kamu kerjakan hari ini?  
I revised again for my Submission C and also progress on making Final Report. There was an info in the morning from mba Deti, it said "for those of you who already submitted the AAD/TF Prep class submission before the deadline, July 1st at midnight. You're safe. We will set July 1st as the deadline to submit it."

So, I can be more seriously in submitting my submission later on if I got rejected again.

[sembunyikan](#)

Jumat  
1Jul 2022

Apa yang kamu kerjakan hari ini?  
I joined weekly consultation, discussed about Timeline and activities coming soon, such as Online Learning - ML, TensorFlow Preparation, and Professional Communications. Beside that, I still keep on update related to Review result for TensorFlow prep in Dicoding.

After that, I joined ML Online Learning too. I hope I can more prepare for my TF Certification.

[sembunyikan](#)

**B. Rangkuman**

No.	Tanggal	Jumlah jam
1	14 – 18 Feb 2022	45 Jam
2	21 – 25 Feb 2022	45 Jam
3	28 Feb – 04 Mar 2022	45 Jam
4	07 – 11 Mar 2022	45 Jam
5	14 – 18 Mar 2022	45 Jam
6	21 – 25 Mar 2022	45 Jam
7	28 Mar – 01 Apr 2022	45 Jam
8	04 – 08 Apr 2022	45 Jam
9	11 – 15 Apr 2022	45 Jam
10	18 – 22 Apr 2022	45 Jam
11	25 – 29 Apr 2022	50 Jam
12	02 – 06 Mei 2022	50 Jam
13	09 – 13 Mei 2022	50 Jam
14	16 – 20 Mei 2022	50 Jam
15	23 – 27 Mei 2022	50 Jam
16	30 Mei – 03 Jun 2022	50 Jam
17	06 – 10 Jun 2022	50 Jam
18	13 – 17 Jun 2022	50 Jam
19	20 – 24 Jun 2022	50 Jam
20	27 Jun – 01 Jul 2022	45 Jam
	<b>Total Jam</b>	<b>945 Jam</b>

 Mengajukan  
 Mahasiswa

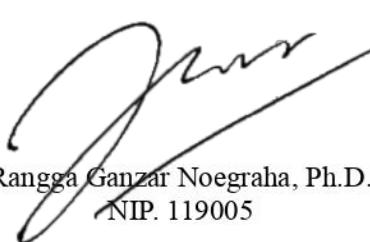


 Kiagus Muhammad Arsyad  
 NIM. 105219002

Pembimbing Instansi


 Adriannus Yoza Aprilio  
 ID. 01032015004

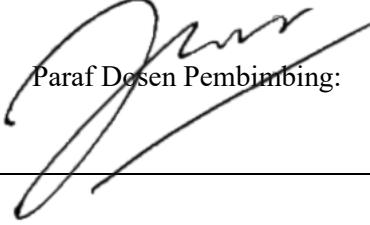
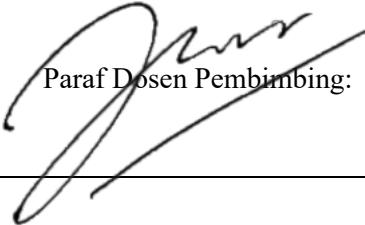
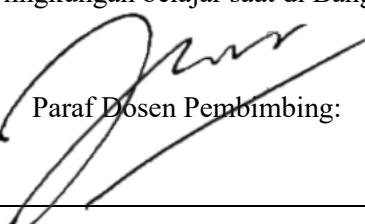
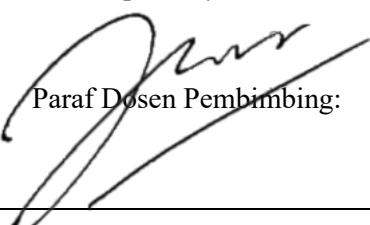
Dosen Pembimbing



 Rangga Ganzar Noegraha, Ph.D.  
 NIP. 119005

### LEMBAR BIMBINGAN KEGIATAN MBKM

Nama : Kiagus Muhammad Arsyad NIM : 105219002  
 Program Studi : Ilmu Komputer Jenis MBKM : Studi Independen Bersertifikat  
 Nama Dosen Pembimbing : Rangga Ganzar Noegraha, Ph.D

No.	Hari/Tanggal:
1.	Senin/7 Februari 2022
	Hal yang menjadi perhatian: <ul style="list-style-type: none"> <li>• Mendiskusikan hal yang perlu dipersiapkan untuk mengikuti program MBKM SIB Bangkit.</li> <li>• Menimbang efek dari bobot SKS yang diambil dan dampaknya.</li> </ul>
	 Paraf Dosen Pembimbing:
No.	Hari/Tanggal:
2.	Sabtu/21 Mei 2022
	Hal yang menjadi perhatian: <ul style="list-style-type: none"> <li>• Mendiskusikan terkait konversi SKS dari program MBKM Bangkit untuk KP.</li> <li>• Mata kuliah wajib yang perlu diambil pada semester 7 dan 8.</li> </ul>
	 Paraf Dosen Pembimbing:
No.	Hari/Tanggal:
3.	Kamis/7 Juli 2022
	Hal yang menjadi perhatian: <ul style="list-style-type: none"> <li>• Melakukan Seminar Akhir Kegiatan MBKM Bangkit.</li> <li>• Bimbingan Laporan Akhir MBKM Studi Independen.</li> <li>• Berdiskusi terkait hal apa yang sudah didapatkan dan lingkungan belajar saat di Bangkit.</li> </ul>
	 Paraf Dosen Pembimbing:
No.	Hari/Tanggal:
4.	Jumat/15 Juli 2022
	Hal yang menjadi perhatian: <ul style="list-style-type: none"> <li>• Finalisasi Laporan Akhir MBKM dan Persetujuan Submit ke Repository.</li> </ul>
	 Paraf Dosen Pembimbing:



### **SURAT KETERANGAN SELESAI KEGIATAN**

Nomor: BA/SRT/XXII-08/M7302F2592

1.

Yang bertanda tangan di bawah ini:

Nama : Andrianus Yoza Aprilio  
Nomor Pegawai : 01032015004  
Jabatan : Learning Support Manager  
Instansi : PT. Presentologic  
Alamat Instansi : Jalan Villa Duta 3 No. 1 Kabupaten Bandung

Selaku Pembimbing Institusi, menyatakan bahwa mahasiswa berikut:

Nama : Kiagus Muhammad Arsyad  
NIM : 105219002  
Program Studi : Universitas Pertamina

Telah menyelesaikan Kegiatan MBKM di:

Instansi : PT. Presentologics  
Bagian : Bangkit Academy 2022 Machine Learning Path  
Bentuk MBKM : Studi Independen Bersertifikat

Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan secara bertanggung jawab.

Bandung, 31 Juli 2022

Pembimbing Institusi,

Adrianus Yoza Aprilio

ID. 01032015004



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