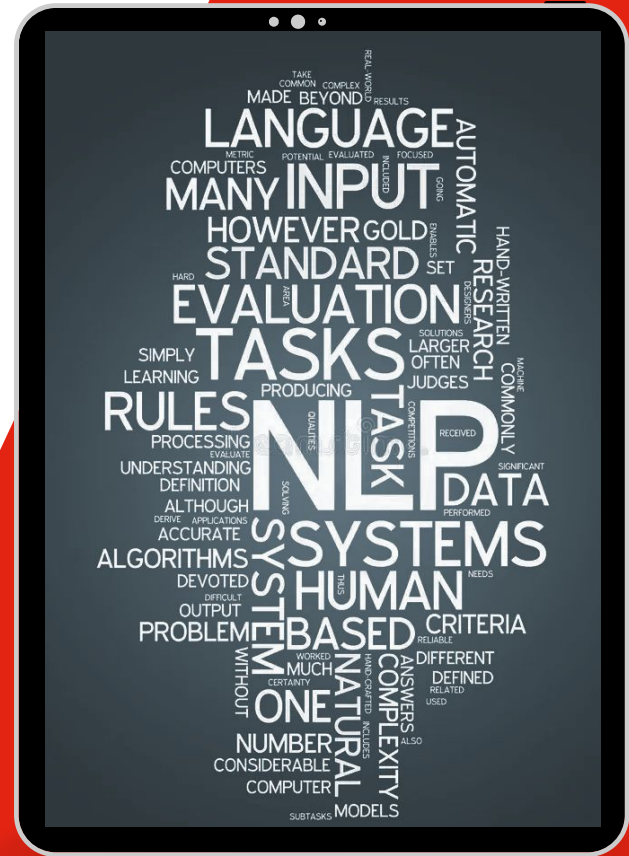


# Muhajir Akbar Hasibuan

2023



# Muhajir Akbar Hasibuan

## Data Scientist



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☎ +62 85297023234

📍 Jakarta, Indonesia

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🐙 [github.com/muhajirakbarhsb](https://github.com/muhajirakbarhsb)

📖 [medium.com/@muhajirakbarhsb](https://medium.com/@muhajirakbarhsb)

## Experience

### Telkom Indonesia

Sept 2020 - present

- Develop internal and external use cases
- Provide data understanding in making a model
- Provide Preparation and data engineering according to the use case implemented
- Provide data validation so that the analysis results are as expected
- Building modeling for the development or improvement of internal and external programs
- Provide descriptive and diagnostic insight into data processing
- Recommend and define new growth hacking strategy for digital marketing team

### Project

- Pioneered a Robust Big Data Solution for MyIndihome, Revolutionizing Customer Experiences
- Orchestrated a High-Performing ML Team, Elevating myIndihome TV's Personalized Content Impact by 25%
- Envisioned and Executed a Cutting-Edge Big Data Solution for Elevated Customer Engagement on myIndihomeTV
- Fueled Business Insights via Dynamic Data Profiling, Performance Dashboards, and Insights for Langit Musik, RBT, and Upoint
- Engineered Innovative Big Data Solutions that Propelled Growth for PadiUkm (E-Commerce)
- Powered Success for GameQoo through Strategic Big Data Solutions
- Architected and Established MLOps Framework, Elevating Telkom Indonesia's Digital Business Products
- Crafted Visionary Video Analytics Solutions for Telkom Indonesia's Revolutionary Digital Business IoT Product

MEMBER OF DATA SCIENTIST TASK FORCE | NOVEMBER 2021 - PRESENT

MEMBER OF AI TASK FORCE | NOVEMBER 2022- PRESENT

A Pool of data scientists and AI Engineer Expert in Telkom Indonesia. It was established to leverage data-driven culture for decision-making within the organization. (Applied Research, Standardization, Consultation)

### Achievement

BEST Talent of the Year at Telkom Indonesia, Digital Business and Technology Division - Digital Technology and Platform -2022

### Codex by Telkom Indonesia

Apr 2020 - Sept 2020

- Building Data Pipeline for Langit Musik Recommender System
- Business Analytic for Langit Musik
- Build Recommender System for Langit Musik

### Universitas Syiah Kuala

2015-2020

- Bachelor of Science, Statistics

## Skills

### Hard Skills

- Data Analytics
- Statistics
- Machine Learning
- Deep Learning
- MLOps
- Business Intelligence
- Data Engineering
- Cloud Computing
- Time Series & Demand Forecasting
- Natural Language Processing
- Fraud & Anomaly Detection
- Computer Vision

### Tools Skills

- Python
- Pyspark
- Sql
- Apache Airflow
- GCP
- Docker
- MLflow
- Prometheus
- Evidently
- Grafana
- Redash, Metabase, Superset, Looker Studio
- Pytorch

<p><b>Class Meeting 1:</b> Introduction to NLP (1 session)</p> <p>Introduction to NLP</p> <p>Basics of text data and its characteristics</p> <p>The importance of NLP in today's world</p> <p>Overview of the course structure and objectives</p> <p><b>Class Meeting 2:</b> Text Preprocessing (1 session)</p> <p>Understanding the text preprocessing pipeline</p> <p>Tokenization, stemming, and lemmatization</p> <p>Stop words removal</p> <p>Hands-on exercises with Python for text preprocessing</p> <p><b>Class Meeting 3:</b> Text Representation (1 session)</p> <p>Introduction to text representation techniques</p> <p>Bag of Words (BoW) and Term Frequency-Inverse Document Frequency (TF-IDF)</p> <p>n-gram</p> <p>Word embeddings (Word2Vec, GloVe)**just an introduction</p> <p>Practical exercises on text representation</p> <p><b>Class Meeting 4:</b> Introduction to ML, DL Supervised and Unsupervised (1 session)</p> <p>Introduction to deep learning (ML)</p> <p>Introduction to deep learning (DL)</p> <p>DL vs. traditional machine learning (ML)</p> <p>Machine Learning and their applications</p> <p>Neural networks and their applications</p> <p>Basic ML DL concepts and terminology</p> <p><b>Class Meeting 5:</b> Sentiment Analysis (1 session)</p> <p>What is sentiment analysis?</p> <p>Data collection and labeling for sentiment analysis</p> <p>Building a sentiment analysis model</p> <p>Practical sentiment analysis examples</p> <p><b>Class Meeting 6:</b> Text Classification (1 session)</p> <p>Introduction to text classification</p> <p>Binary and multi-class classification</p> <p>Building a text classification model</p> <p>Real-world text classification examples</p>	<p><b>Class Meeting 7:</b> Introduction to Topic Modeling(1 session)</p> <p>Introduction to topic Modelingg</p> <p>Topic Modeling Implementation</p> <p>LDA(Latent dirichlet allocation)</p> <p>Hands-on exercises with Topic Modeling</p> <p><b>Class Meeting 8:</b> Mid-term Exam</p> <p><b>Class Meeting 9:</b> Introduction to Word Embeddings (1 session)</p> <p>Fundamentals of word embeddings</p> <p>Word2Vec, GloVe, and FastText</p> <p>Word embedding applications</p> <p>Hands-on exercises with word embedding</p> <p><b>Class Meeting 10:</b> Attention Mechanisms (1 session)</p> <p>Introduction to attention mechanisms</p> <p>Self-attention and multi-head attention</p> <p>Transformers architecture</p> <p>Practical examples of attention in NLP</p> <p><b>Class Meeting 11:</b> Transformer Models (1 session)</p> <p>In-depth study of the Transformer model</p> <p>Pre-trained transformer models (BERT, GPT-2)</p> <p>Fine-tuning transformers for NLP tasks</p> <p>Transformer-based applications</p> <p><b>Class Meeting 12:</b> Advanced NLP Topics (1 session)</p> <p>Advanced NLP topics such as BERT, XLNet, and RoBERTa</p> <p>Transfer learning in NLP</p> <p>Ethics in NLP</p> <p>Recent developments and trends in NLP</p> <p><b>Class Meeting 13:</b> Advanced NLP Topics and Deployment Process in Industry (1 session)</p> <p>Introduction to LLM</p> <p>Introduction how industry utilize NLP to generate revenue</p> <p>Introduction MLOps for NLP(bonuses from practitioners)</p>	<p><b>Class Meeting 14-15:</b> Project Work (2 sessions)</p> <p>Dedicated sessions for students to work on NLP projects with guidance and assistance.</p> <p><b>Class Meeting 16:</b> Project Presentations and Conclusion (1 session)</p> <p>Students present their NLP projects</p> <p>Recap of key takeaways from the course</p> <p>Discuss further resources for NLP enthusiasts</p> <p>Course conclusion and feedback</p>
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# Agenda

- Overview of the course structure and objectives
- Introduction to NLP
- Basics of text data and its characteristics
- The importance of NLP in today's world

# **Introduction to Natural Language Processing**

# The Human Language

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# The Human Language

HUMANS



OTHER SPECIES





# The Human Language

---



**LANGUAGE**



# The Human Language



LANGUAGE



ALPHABETS

字母 वर्णमाला

ALFABETOS

الأبجدية எழுத்துக்கள்

# The Human Language

**KNOW THE  
RULES !**

**LANGUAGE**



**ALPHABETS**

! 字母 वर्णमाला ALFABETOS  
الأبجدية எழுத்துக்கள்



**This is a Sentence**

grammar  
tenses  
speech  
adjectives  
future  
affirmative  
exercises  
adverbs  
interrogatives  
present  
articles  
nouns  
past  
negative  
worksheets  
conditional  
gerunds  
english  
questions  
prepositions  
passives  
verbs  
reported

# The Human Language

**KNOW THE  
RULES !**

**LANGUAGE**



**ALPHABETS**

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الأبجدية எழுத்துக்கள்



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past  
negative  
worksheets  
conditionals  
gerunds  
english  
questions  
prepositions  
passives  
verbs  
reported

# NLP?



Neuro  
Linguistic Programming

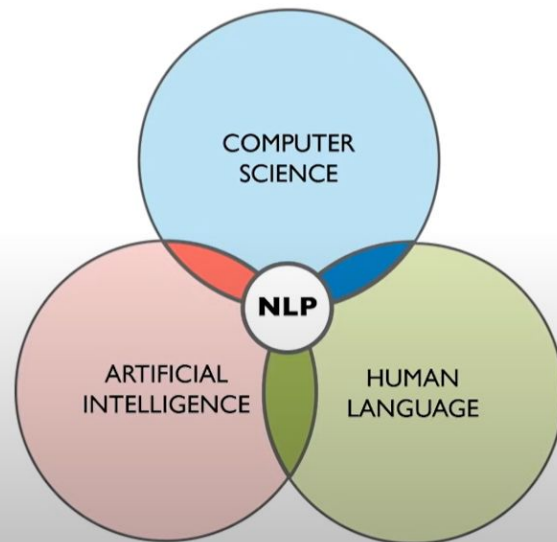


Natural  
Language Processing

# What is NLP?



***NLP: Natural Language Processing*** is a part of computer science and artificial intelligence which deals with human languages.



# What is NLP?

The **GOAL** here is to process or understand Natural Language in order to perform useful tasks like

- Making Appointments
- Buying Things
- Spell Checking
- Generating Response
- Social Media Monitoring .....





# Applications of NLP



Spell  
Checking

Information  
Extraction



Keyword  
Search

Advertisement  
Matching



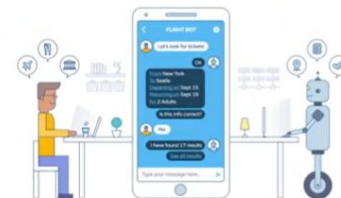


# Applications of NLP



**Sentimental  
Analysis**

**Chatbot**



**Speech  
Recognition**

**Machine  
Translation**





How have you been?

How are you?

Teks Gambar Dokumen

Deteksi bahasa Indonesia Inggris Jepang

Inggris Indonesia Arab

Terjemahan

Kirim masukan

- Less
- Chats
- Scheduled
- Spam 28
- Trash
- Manage labels
- Create new label



### Koleksi Produk Alat Tulis Kantor Andalan Negeri

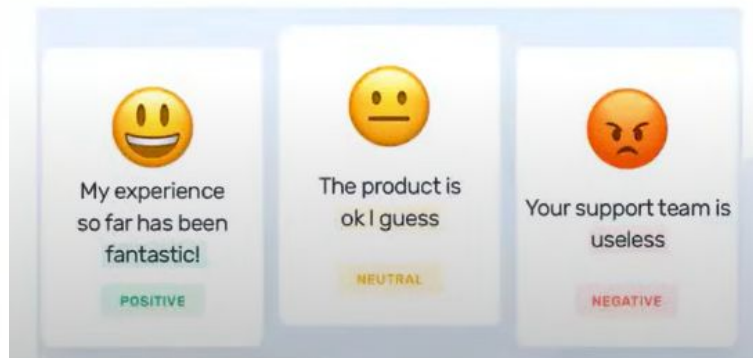
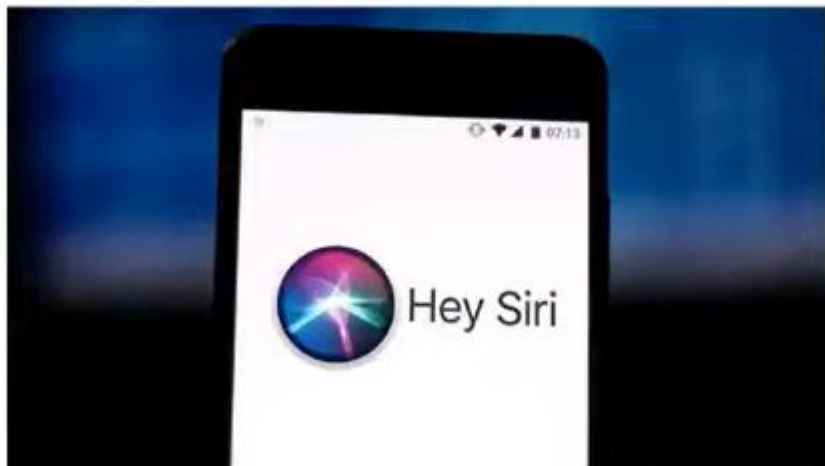
**KOLEKSI**  
ANDALAN NEGERI

PENUHI  
KEBUTUHAN  
ATK DENGAN  
PRODUK DALAM  
NEGERI

TKDN 78% PKP

tipex joyko cair  
Rp5.000  
Kab. Muara Enim  
TKDN 78% PKP

Spidol biasa  
(hitam/biru)  
Rp15.000  
Kab. Muara Enim  
TKDN 58% PKP



## Testing

Transfer learning, where a high-resource NMT model is transferred to initiate a low-resource model, is common method for improving the low-resource NMT performance.

### SPELLING

hig → high

The word **hig** is not in our dictionary. If you're sure this spelling is correct, you can add it to your personal dictionary to prevent future alerts.

Add to dictionary

Match Overview		
59%		
1	ejournal.kopertais4.or.id Internet Source	7%
2	etheses.uin-malang.ac.... Internet Source	7%
3	digilib.uinsby.ac.id Internet Source	6%
4	e-repository.perpus.iain... Internet Source	5%
5	repository.uinjkt.ac.id Internet Source	4%
6	repository.uinsu.ac.id Internet Source	3%
7	repo.iain-tulungagung....	2%



# **Structure VS Unstructure Data**

# Structure vs Unstructure

## Key differences between structured and unstructured data

	Structured data	Unstructured data
ANALYSIS	Quantitative	Qualitative
SCHEMA CREATION	Schema-on-write	Schema-on-read
SEARCHING	Easy using SQL-based methods	May need special tools
FORMAT	Predefined, using alphanumeric characters	Typically non-character-oriented digital representations
STORAGE	May require more storage to accommodate defined data structures	Some forms require less storage; others have large file formats, requiring more storage
STORAGE FORMAT	Relational database management systems, data warehouses	Applications, NoSQL databases, data lakes

# Structure vs Unstructure

```
[ ] dfItem.head(30)['content'].values
```

```
array(['Good',
      'Kalau mau lihat perangkat yang terhubung gak bisa, langsung auto keluar dari aplikasinya, tolong perbaiki lagi. 🙏',
      'Mohon di perbaiki bug aplikasi ini, banyak sekali bug, apalagi pada saat isi paket untuk bulan selanjutnya sering gagal padahal pulsa terisi dan mohon di tambah fitur auto perpanjang pada tgl yg sudah di tentukan ma
tenggang paket habis dan bila ada pulsa yg ada di aplikasi.',
      'TOLONG DI PERBAIKI YA KA APLIKASI NYA SAAT SAYA PENCET PERANGKAT TERHUBUNG KELUAR SENDIRI MULU DARI APLIKASI NYA 🙏🙏🙏DAN AKUN YANG SUDAH ADA ENGGAK BISA KELUAR LAGI DARI APLIKASI NYA KA DAN AKUN SAYA SUDAH KE
KALI LOGIN SUDAH KA KARNA AKUN NYA SERING KELUAR DARI APLIKASI NYA DAN SEKARANG DI SURUH LOGIN LAGI AKUNNYA 🙏🙏',
      'TIDAK DIREKOMENDASIKAN SAMA SEKALI.. SUDAH BANYAK GANGGUANNYA, LAMPU INDIKATOR SINYAL MERAH TERUS.. HARGA MAHAL, PELAYANAN CUEK.. DISURUH MENUNGU TERUS.. KAPOK BELI INI..',
      'Beli paket pembayaran VA dah 2 hari ga masuk2 dah komplain tapi belum ada kejelasan haduuh no recommend dah servicenya',
      'Ribet amat skrg harus login trus',
      'Isi kuotanya pakai bca virtual account,ngga masuk2 kuotanya,di mohon nunggu ntah sampai kapan!orang perlu kuotanya skrg,ngga profesional bgt',
      'Ini apasih wifi sering tidak bisa terhubung, sering logout, mau login lagi susah, anehh',
      'susah daftatnya, sudah beli modem pas daftar disurubeli modem lagi. lebih baik daftar manual. harga juga tidak sesuai di promo. mahalllll promonya saja yg murah pembelian paket tetap MAHAL',
      'JANGAN JUAL PRODUK SAMPAH BOSS...!! ORBIT MAHAL, JARINGAN CUMA BAGUS DI BULAN PERTAMA, APLIKASI EROR, SERING FORCE CLOSE, GANTI NAMA PERANGKAT YANG TERHUBUNG BISA TAPI SETELAH KELUAR APLIKASI (LOGIN ULANG) SAAT CEK
PERANGKAT TERHUBUNG LANGSUNG EROR APLIKASI, PULSA TERPOTONG KUOTA BELUM MASUK, AKUN TIDAK TERDAFTAR SAAT LOGIN (PADAHAL NOMER ITU SUDAH BENAR), PROTES DI PLAYSTORE CUMA NGOMONG SILAHKAN HUBUNGI INSTAGRAM (TIDAK DIRESPON) EN
(TIDAK DIRESPON) NOMER WHATSAAP (TIDAK TERDAFTAR) 🙏🙏',
      'iklan tidak bisa d close parah',
      'Selalu gagal login. Password masuk ke aplikasi my orbit selalu salah padahal sudah beberapa kali ganti. 🙏\u200dd',
      'Sering logout, dan jika login harus masukan kartu SIM di hp untuk mendapatkan kode otp. Sangat ribet. Apalagi ketika saya berada jauh dari modem orbitnya.',
      'Anying benar pihak telkomsel ini,,paket makin lama makin mahal,,sinyal orbit makin sulit,,anji*9',
      'Bigung mau beli paket data di aplikasi slalu muat ulang muat ulang gimana mau isi payah',
      'Gak jelas!',
      'Orbit oh orbit aplikasimu ga sesuai janjimu, alat sering error jaringan juga ahhhhh Mending pake my Republik atau sejenis daripada orbit',
      'Kenapa saya tidak bisa login ke aplikasi my orbit ?? Disitu di bilang terjadi kesalahan sistem .. mohon di balas',
      'Pada saat akan membuka perangkat yang terhubung aplikasi tiba2 keluar sendiri kecewa,harga paket naik asuu',
      'orbit makin mahal sekerang',
      'Tolong deh di perbaiki lagi untuk costumer servicenya. Saya terkendala beli paket orbit sudah melakukan pembayaran tapi paket data belum bertambah. Sudah chat lewat si veronika gak ada respon. Uang 100ribu mungkin
bukan uang banyak tapi seberapa banyak kalian ambil itu uang haram. Gak ikhlas saya seumur hidup',
      'Sering long off dari hp yg terdaftar harus login ulang menggunakan kartu yg tertanam di orbit.',
      'Mau isi ulang kuota tapi error tolong diperbaiki di aplikasinya 🙏',
      'Semakin kesini semakin mahal dan lelet',
      'Ya bener mi orbit pertama di pakai lancar lama2 paket nya mahal di tambah lagi jarang bisa di pakai sinyalnya tmh susah ngk bisa setabil nyesel q beli .',
      'Sangat tidak di sarankan untuk beli soalnya cuma bylan pertama yg lancar akses internetnya dan setelah itu parah lemot masih lebih cepat kalau kaki seribu pakai sepatu',
      'Gak tau kenapa ya gak bisa login, padahal udah daftar nomornya. Aplikasi aneh',
      'Mau ganti imail nunggu satu abat link endak di kirim lamaaaaa banget respont nya',
      'Keluar sendiri dari aplikasi selalu dan berulang kali, paketannya makin mahal ga kayak pas pertama skrng 200rb cuman dapat 130gb aja ga kayak dulu 150gb ga nyampe 200rb. Sinyal bagus pas pertama makin hari makin
parah.'],
      dtype=object)
```

# Structure vs Unstructure

score	thumbsUpCount	reviewCreatedVersion	at
5	0	0.69.2	2023-09-04 01:34:10
1	0	0.69.2	2023-09-03 23:54:14
1	4	0.67.16	2023-09-03 20:19:18
3	0	0.69.2	2023-09-03 13:35:54
1	0	0.69.2	2023-09-03 12:52:15
...	...	...	...
5	1	0.8.23	2020-05-25 18:34:40
5	2	0.8.20	2020-05-22 05:17:46
4	0	None	2020-05-19 21:47:11
3	3	0.8.20	2020-05-19 17:17:52
5	1	0.8.20	2020-05-18 22:18:02



**Get Real Data**

# MyOrbit - Internet Rumah WiFi

Telekomunikasi Selular

4,1★  
51,4 rb ulasan

1 jt+  
Hasil download

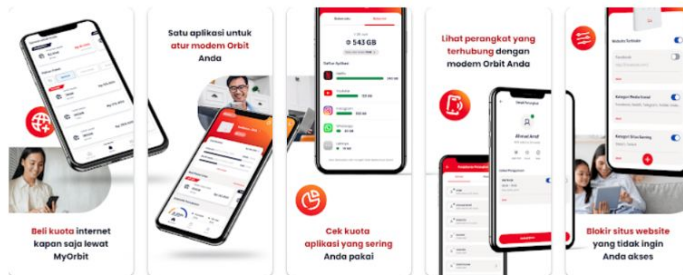
3+  
Rating 3+ ⓘ

Instal

Bagikan

Tambahkan ke wishlist

ⓘ Aplikasi ini tersedia untuk perangkat Anda



## Tentang aplikasi ini →






Aplikasi eksklusif untuk pelanggan Telkomsel Orbit, internet rumah serba digital. Tingkatkan produktifitas Anda di rumah dengan kecepatan internet yang stabil. Modem Anda juga bisa sederhana. Mulai dari kontrol jumlah perangkat yang terhubung, atur waktu internetan dan cek pemakaian per hari, isi ulang kuota dan masih banyak lainnya. Semua dari satu aplikasi....

Diupdate pada



Dukungan apl ▾

Aplikasi serupa →

-  J&T Express Indonesia  
PT. Global Jet Express  
2,3★
-  Mitra Bukalapak: Pulsa, PPOB  
PT Bukalapak.com  
4,7★
-  Lite Anti Blokir Proxy Browser  
OZZMO  
4,6★
-  CGV CINEMAS INDONESIA  
CGV Cinemas  
4,7★
-  Shipper-Aplikasi Kirim Barang  
PT Bhinda Telekomunikasi



Rating dan ulasan telah diverifikasi ⓘ

 Chromebook

★★★★☆

50,7 rb ulasan



nas nis

★ ★ ★ ★ ★ 25 Agustus 2023

Waktu baru beli, paket murah dan berselancar di internet apalagi zoom lancar jaya. Selang 3 bulan harga paket Naik, dan harganya beda jauh dg saat baru beli orbit dan kecepatan internet sangat lemah.

20 orang merasa ulasan ini berguna

Apakah konten ini berguna bagi Anda?

Ya

Tidak

Anna Maryana

★★★★★ 26 Agustus 2023

Aplikasinya udah bagus. Sangat membantu pengguna untuk mengatur modem. Pengalaman saya, untuk informasi wifi sudah diganti nama dan password baru. Tapi masih menunjukkan nama dan password bawaan modem. Mohon untuk developer telkomsel bisa memperbaiki. Terimakasih.

12 orang merasa ulasan ini berguna

Apakah konten ini berguna bagi Anda?

Ya

Tidak

Awe Allensanic

★☆☆☆☆ 25 Agustus 2023

Baru juga 2 bulan ngerasain pake my orbit. 1 bulan pertama okey lah. Masuk ke 2 bulan super parah jaringan nya. Padahal di indikator ada 4 bar sinyal nya. Tapi buat maen game ping nya merah terus. Next bakal w jual nih my orbit



# Python Time

[https://github.com/muhajirakbarhsb/NLP\\_class\\_2023](https://github.com/muhajirakbarhsb/NLP_class_2023)

The screenshot shows the GitHub repository page for `NLP_class_2023` by user `muhajirakbarhsb`. The repository is public and has 0 stars, 1 watch, and 0 forks. The main branch is selected, showing a file list with `get_review_data.ipynb` and `readme.md`, both created 3 hours ago. The `readme.md` file is open, displaying the repository's introduction and course structure. The introduction welcomes students, collaborators, and curious individuals to the NLP class repository. The course structure section states that the class is divided into multiple sessions, each covering a specific NLP topic, with detailed information available in the corresponding folders.

**NLP\_class\_2023** Public

main 1 branch 0 tags

Go to file Add file <> Code

**Files**

File Name	Created using Colaboratory	Created
get_review_data.ipynb	Created using Colaboratory	3 hours ago
readme.md	Create readme.md	3 hours ago

**readme.md**

## Natural Language Processing (NLP) Class Repository

Welcome to the repository for the Natural Language Processing (NLP) class! This repository contains resources, materials, and code for our NLP course. Whether you are a student, collaborator, or just curious about NLP, you'll find valuable information here.

### Introduction

In this NLP class, we explore the exciting field of Natural Language Processing, which focuses on the interaction between computers and human language. Our goal is to equip you with the knowledge and skills to work with text data, understand NLP concepts, and apply them in real-world scenarios.

### Course Structure

Our class is divided into multiple sessions, each covering a specific NLP topic. You can find detailed information about each session, including presentation slides, code samples, and assignments, in the corresponding folders within this repository.

**About**

No description, website, or topics provided.

**Releases**

No releases published  
[Create a new release](#)

**Packages**

No packages published  
[Publish your first package](#)

**Languages**

Jupyter Notebook 100.0%

# Python Time

in python make a variable

```
word1 = "statistics"
```

```
word2 = "Statistics"
```

```
word1 == word2
```

what happened? anyone can conclude?

<p><b>Class Meeting 1:</b> Introduction to NLP (1 session)</p> <p>Introduction to NLP</p> <p>Basics of text data and its characteristics</p> <p>The importance of NLP in today's world</p> <p>Overview of the course structure and objectives</p> <p><b>Class Meeting 2:</b> Text Preprocessing (1 session)</p> <p>Understanding the text preprocessing pipeline</p> <p>Tokenization, stemming, and lemmatization</p> <p>Stop words removal</p> <p>Hands-on exercises with Python for text preprocessing</p> <p><b>Class Meeting 3:</b> Text Representation (1 session)</p> <p>Introduction to text representation techniques</p> <p>Bag of Words (BoW) and Term Frequency-Inverse Document Frequency (TF-IDF)</p> <p>n-gram</p> <p>Word embeddings (Word2Vec, GloVe)**just an introduction</p> <p>Practical exercises on text representation</p> <p><b>Class Meeting 4:</b> Introduction to ML, DL Supervised and Unsupervised (1 session)</p> <p>Introduction to deep learning (ML)</p> <p>Introduction to deep learning (DL)</p> <p>DL vs. traditional machine learning (ML)</p> <p>Machine Learning and their applications</p> <p>Neural networks and their applications</p> <p>Basic ML DL concepts and terminology</p> <p><b>Class Meeting 5:</b> Sentiment Analysis (1 session)</p> <p>What is sentiment analysis?</p> <p>Data collection and labeling for sentiment analysis</p> <p>Building a sentiment analysis model</p> <p>Practical sentiment analysis examples</p> <p><b>Class Meeting 6:</b> Text Classification (1 session)</p> <p>Introduction to text classification</p> <p>Binary and multi-class classification</p> <p>Building a text classification model</p> <p>Real-world text classification examples</p>	<p><b>Class Meeting 7:</b> Introduction to Topic Modeling(1 session)</p> <p>Introduction to topic Modelingg</p> <p>Topic Modeling Implementation</p> <p>LDA(Latent dirichlet allocation)</p> <p>Hands-on exercises with Topic Modeling</p> <p><b>Class Meeting 8:</b> Mid-term Exam</p> <p><b>Class Meeting 9:</b> Introduction to Word Embeddings (1 session)</p> <p>Fundamentals of word embeddings</p> <p>Word2Vec, GloVe, and FastText</p> <p>Word embedding applications</p> <p>Hands-on exercises with word embedding</p> <p><b>Class Meeting 10:</b> Attention Mechanisms (1 session)</p> <p>Introduction to attention mechanisms</p> <p>Self-attention and multi-head attention</p> <p>Transformers architecture</p> <p>Practical examples of attention in NLP</p> <p><b>Class Meeting 11:</b> Transformer Models (1 session)</p> <p>In-depth study of the Transformer model</p> <p>Pre-trained transformer models (BERT, GPT-2)</p> <p>Fine-tuning transformers for NLP tasks</p> <p>Transformer-based applications</p> <p><b>Class Meeting 12:</b> Advanced NLP Topics (1 session)</p> <p>Advanced NLP topics such as BERT, XLNet, and RoBERTa</p> <p>Transfer learning in NLP</p> <p>Ethics in NLP</p> <p>Recent developments and trends in NLP</p> <p><b>Class Meeting 13:</b> Advanced NLP Topics and Deployment Process in Industry (1 session)</p> <p>Introduction to LLM</p> <p>Introduction how industry utilize NLP to generate revenue</p> <p>Introduction MLOps for NLP(bonuses from practitioners)</p>	<p><b>Class Meeting 14-15:</b> Project Work (2 sessions)</p> <p>Dedicated sessions for students to work on NLP projects with guidance and assistance.</p> <p><b>Class Meeting 16:</b> Project Presentations and Conclusion (1 session)</p> <p>Students present their NLP projects</p> <p>Recap of key takeaways from the course</p> <p>Discuss further resources for NLP enthusiasts</p> <p>Course conclusion and feedback</p>
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**Terima Kasih**