



Onboarding and Course Information

Dasar-Dasar Pemrograman 1

Iis Afriyanti, M.Sc.



WELCOME ABOARD (^▽^)



Meet the Lecturers ^▽^



Iis Afriyanti, S.Kom., M.Sc.

- S1: Fakultas Ilmu Komputer,
Universitas Indonesia (2009-2013)
- S2: Web Technology,
University of Southampton (2015-2016)
- Member of IR and NLP laboratory

Research interest:

Semantic Web, Knowledge Graph, Web Science, Digital Society,
Linked Data, Open Data

Hobby:

Cooking, Reading article related with cooking, medicine, and
nutritions, playing with the baby

E-mail:

iisafriyanti@cs.ui.ac.id

Meet the Mentors



Eduardus Tjitrahardja

Email: eduardus.tjitrahardja@ui.ac.id
WA: 0896-3546-4305



Yosua Chrial Martono

Email: yosua.chrial@ui.ac.id
WA: 0852-1888-2003



Marcellinus Elbert

Email: marcellinus.elbert@ui.ac.id
WA: 0857-7814-5208



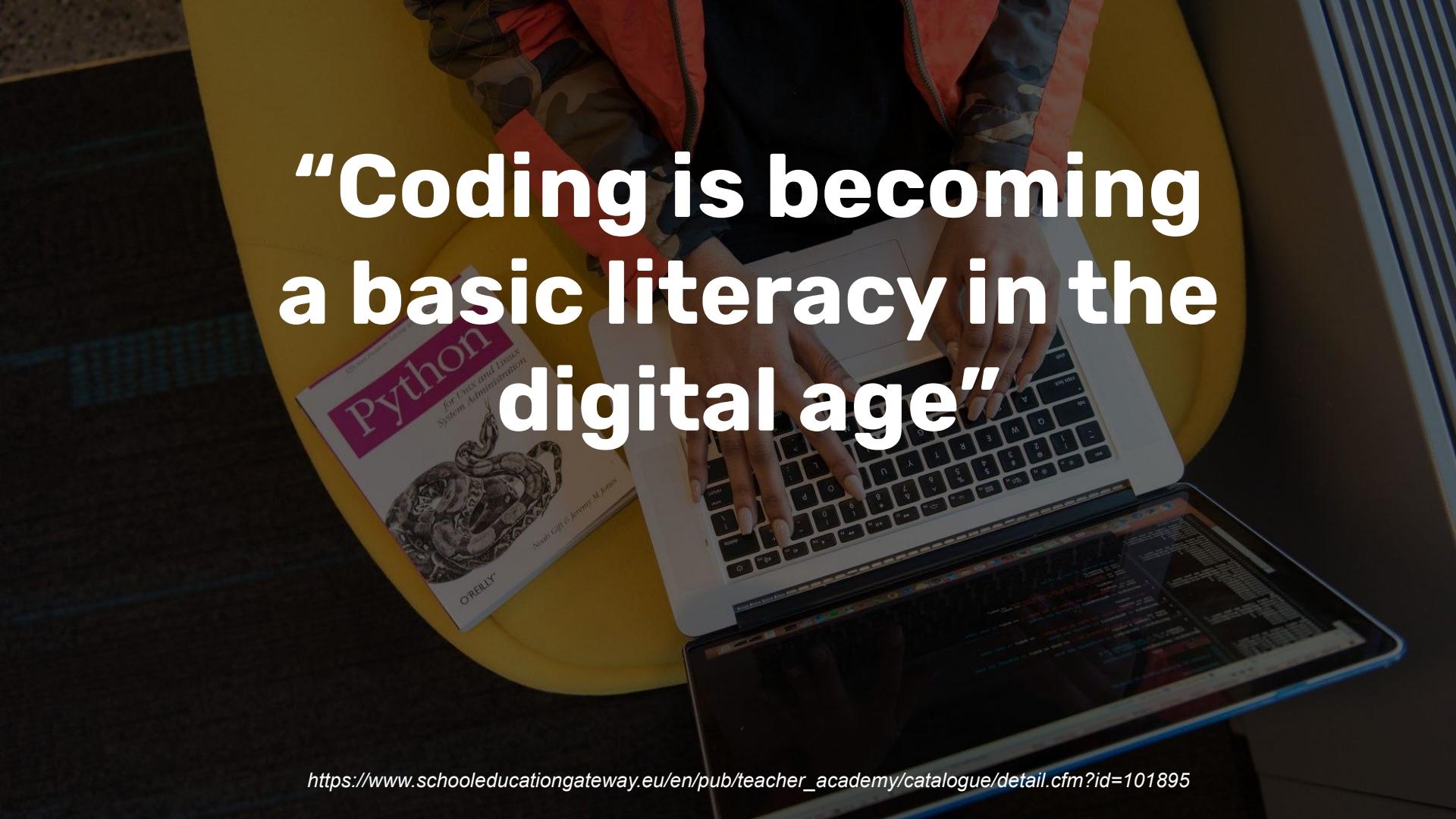
Alicia Kirana Utomo

Email: alicia.kirana@ui.ac.id
WA: 0851-5631-3835

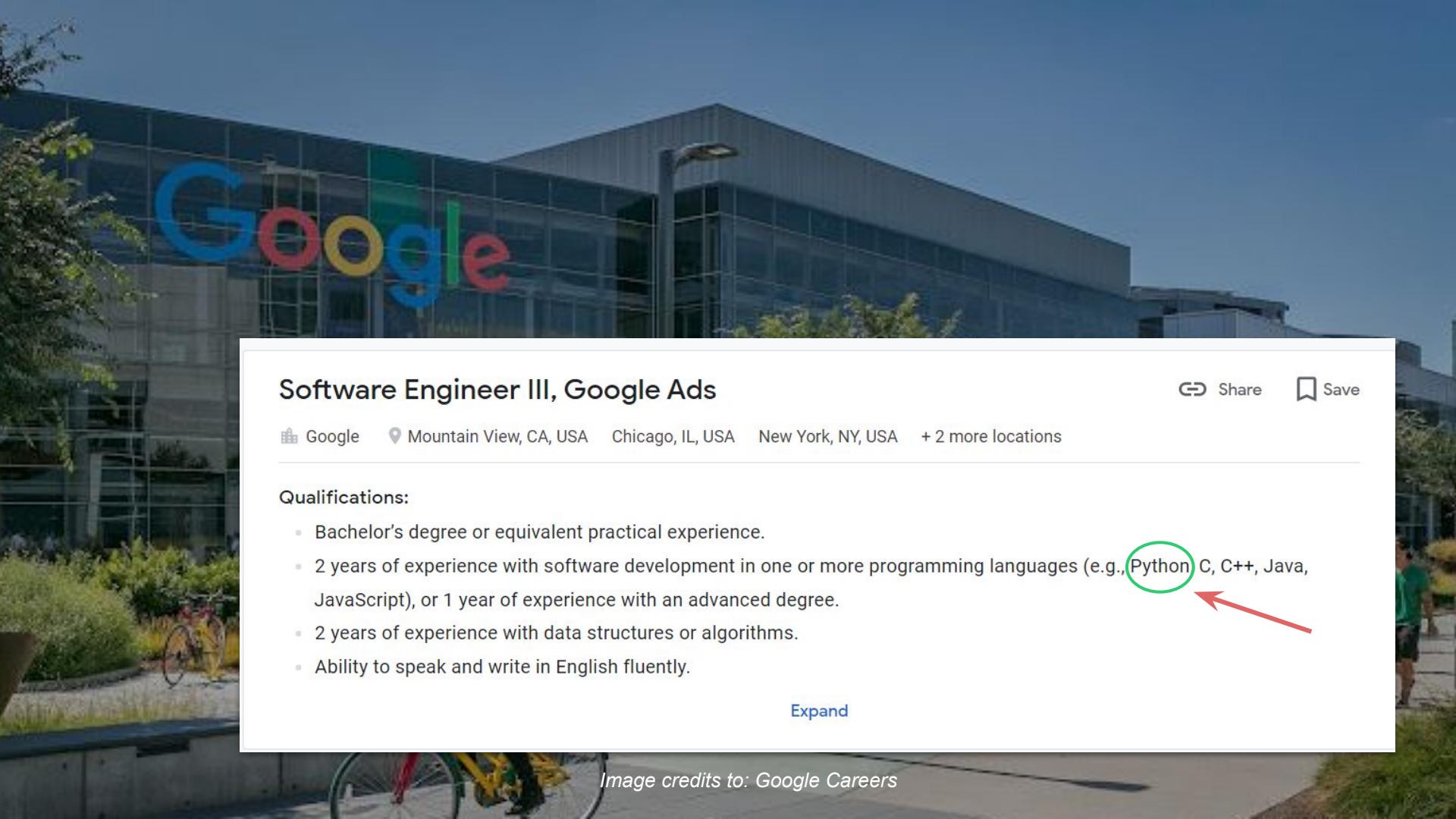
What's your motivation to take this faculty?

Go to <https://forms.gle/kzsHTRdDtpF6PRHp9>



A photograph showing a person from the waist down, wearing a yellow safety vest over a red long-sleeved shirt and camouflage pants. They are sitting at a desk, working on a white laptop. On the desk next to the laptop is a white O'Reilly book titled "Python for Unix and Linux System Administration" by Noam Goff & Jeremy M. Jones. The book cover features a stylized snake. The background is a plain, light-colored wall.

**“Coding is becoming
a basic literacy in the
digital age”**

A photograph of the Googleplex building, featuring the large multi-colored "Google" logo on its glass facade. The building is a modern, multi-story structure with a grid pattern. Some greenery and a bicycle are visible in the foreground.

Software Engineer III, Google Ads

[Share](#)[Save](#)[Google](#)[Mountain View, CA, USA](#)[Chicago, IL, USA](#)[New York, NY, USA](#)[+ 2 more locations](#)

Qualifications:

- Bachelor's degree or equivalent practical experience.
- 2 years of experience with software development in one or more programming languages (e.g., Python C, C++, Java, JavaScript), or 1 year of experience with an advanced degree.
- 2 years of experience with data structures or algorithms.
- Ability to speak and write in English fluently.

[Expand](#)

Data Scientist?



Home Job List Blog Gojek Tech Students & Graduates Gojek Nationwide



Data Scientist - Merchant Platform

Location
Jakarta

Work Type
Permanent

Application Posted
July 28, 2021

About the Role

As our Data Scientist for the Merchant Platform team, you will be handed the reins in driving asymmetric values for Gojek. Along with utilizing various quantitative techniques (e.g. machine learning, optimization), you will work closely with the product managers, engineers, and business users to deliver scalable data science solutions to increase the overall growth and efficiency of our Merchant-partner's Food-Payment-Ads business. The cherry on top: you'll get to influence the variety of foods our hungry customers gets to choose from on GoFood 😊

What You Will Need

- At least 3 years of experience as a Data Scientist and have at least a Bachelor's degree in a quantitative field (i.e. Mathematics, Statistics, Computer Science, Machine learning)
- Hands-on knowledge in common data science stacks (Python+DS libraries, SQL, H2O)

(Python+DS libraries, SQL, H2O)



Computer Science Academician?

Research Fellow, Department of Computer Science

 National University of Singapore

Recruiter: NATIONAL UNIVERSITY OF SINGAPORE
Location: Singapore
Posted: 27 Jul
End of advertisement period: 27 Aug
Ref: 44466
Academic Discipline: Engineering
Job Type: Academic Fellow
Contract Type: Permanent
Hours: Full Time

Job Description

The National University of Singapore invites applications for the position of Research Fellow in the Department of Computer Science, School of Computing (SoC). SoC is strongly committed to research excellence in all its dimensions: Searching for fundamental results and insights, developing novel computational solutions to a wide range of applications, building large-scale experimental systems and

Qualifications

- A PhD degree in a relevant area;
- Excellent programming ability in Python/C/C++ (circled in green)
- Excellent knowledge in deep learning frameworks, e.g. PyTorch, Tensorflow, Nengo
- Good written and verbal communication skills in English
- Familiarity with non-fully supervised learning
- Prior publications in major computer vision (CVPR/ICCV/ECCV) or machine learning (NeurIPS, ICML/ICLR) conferences is a plus.

 COLUMBIA | ECONOMICS

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» Undergraduate » Student information » Econ info for students » Employment Opportunities

PAID RA Position – Columbia Business School

Research Assistant – Accounting Division

Columbia Business School is seeking to hire **two** research assistants for the accounting division, to start ASAP. The student will work with multiple faculty members and the work will include quantitative and qualitative research and analysis involving the collection, coordination and management of information and data. This position provides an opportunity to gain experience in academic accounting and economics research and would be ideal preparation for a PhD program in accounting, finance, economics, or other related fields. The expected commitment is **20 hours per week** and the applicant must be a current **student at Columbia University**.

The Research Assistant's duties include:

- Collect, clean, and maintain datasets and databases. Extract and link data from multiple databases for analysis. Prepare detailed documentation.
- Develop models and implement program code (STATA, Python, SQL, R, SAS, Matlab, etc.).
- Perform statistical analysis, including regression analysis and machine learning techniques.
- Assist with data analysis and dissemination of findings through the preparation of reports, journal articles, presentations, web sites, and other research outlets.
- Perform case-based research, including work with detailed primary documents.

UX Researcher?

The screenshot shows the Jönköping University website. At the top, there is a navigation bar with links for Studera, Forskning, Samarbete med JU, Om oss, and a search bar. Below the navigation bar, there is a large banner for the "USER EXPERIENCE DESIGN" program. The banner features a purple background with white text and a diagram of a user flow or system architecture. Below the banner, a modal window titled "Kurser" displays the course list for the first year. The modal contains the following text:

Obs! Preliminär kurslista.

År 1

[Nästa generationens webb](#) 7,5 hp
[Digital produktutveckling](#) 7,5 hp
[Web Personalisation](#) 7,5 hp
[Webb-säkerhet](#) 7,5 hp
[Digital produktframtagning](#) 7,5 hp
[Examensarbete i Informatik](#) 15 hp

Valbara kurser

[Informationssäkerhet](#) 7,5 hp
[Research Methods](#) 7,5 hp
[Skriptprogrammering](#) 7,5 hp

A green oval highlights the "Skriptprogrammering" course, and a red arrow points from the bottom left towards it.

Social Scientist?

The ECPR website features a navigation bar with the logo "ecpr" on the left. To the right are five dropdown menu items: "OUR ORGANISATION", "EVENTS", "PUBLICATIONS", "MEMBERSHIP", and "PRIZES". A red arrow points from the text "Social Scientist?" down towards the "PUBLICATIONS" menu item.

Python Programming for Social Sciences: Collecting, Analyzing and Presenting Social Media Data



Holger Döring
doering@uni-bremen.de
Institution:
Universität Bremen

Instructor Bio

Holger Döring is a senior researcher in political science at the University of Bremen.

His research and teaching interest focuses on political institutions, democratic delegation, public policy and new types of data collection.

He has successfully applied programming technologies (particularly Python) to establish [ParlGov.org](#) and [PartyFacts.org](#), two modern data infrastructures for political science.

ECPR Winter School
Bamberg, 03 - 10 March
2017

The Indiana University Media Collections Online page features the Indiana University logo and the text "Media Collections Online". Below this is a search bar and links for "Browse Items" and "View Collections". A red arrow points from the text "Social Scientist?" down towards the "Media Collections Online" heading.

Introduction to Python for Social Scientists

A video player displays a presentation slide. The slide features the Indiana University logo, the text "WORKSHOP IN METHODS", and "Introduction to Python for Social Scientists". Below this is a photo of Helge Marahrens. The video player interface shows a play button, a progress bar, and a timestamp of "00:00" to "01:51:40". A red arrow points from the text "Social Scientist?" down towards the "Introduction to Python for Social Scientists" title.

A detailed view of the video player's sidebar, titled "Details". It includes information such as the creation date (2018-11-09), main contributor (Marahrens, Helge-Johannes), and summary. The summary text describes Python as a tool for data scientists to collect, clean, and analyze data. It highlights Python's flexibility and suitability for handling large datasets. The workshop is designed for social scientists interested in Python. The video player also shows the URL "go.iu.edu/wim" and the publisher "IU Workshop in Methods". A red arrow points from the text "Social Scientist?" down towards the "Details" section.



How the customer explained it



How the project leader understood it



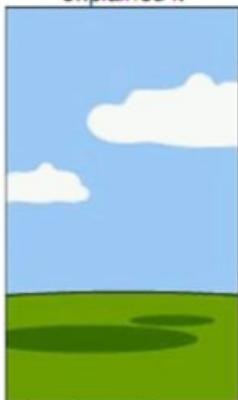
How the engineer designed it



How the programmer wrote it



How the sales executive described it



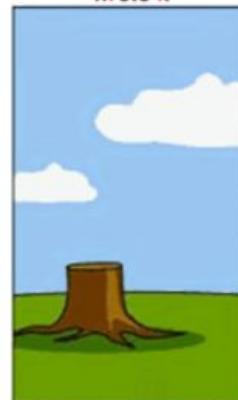
How the project was documented



What operations installed



How the customer was billed



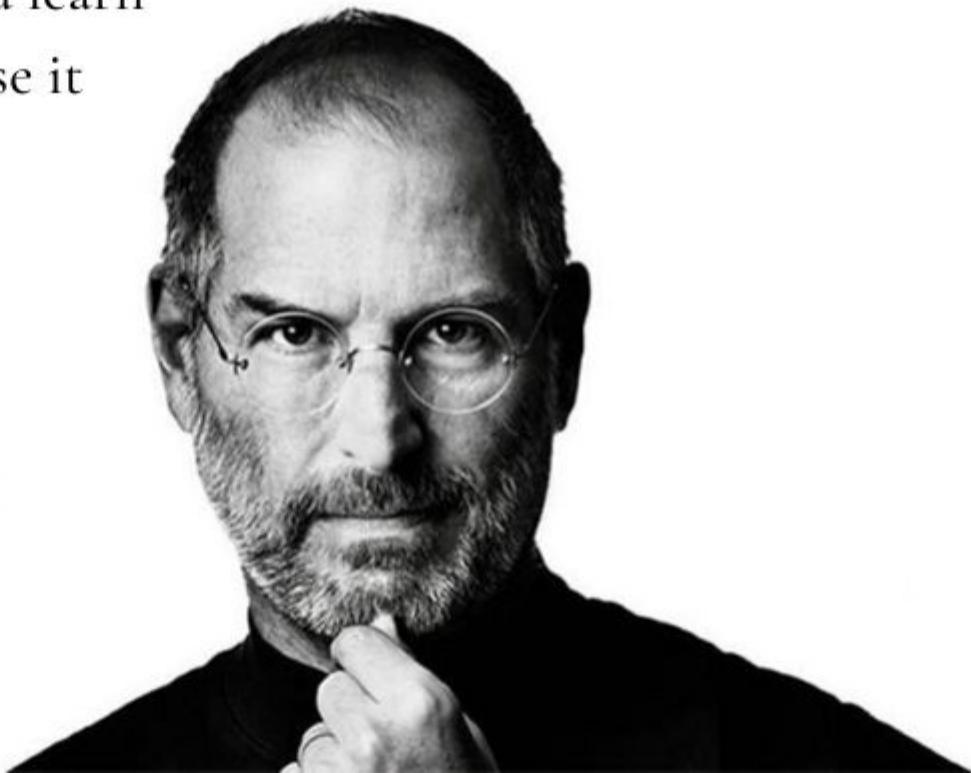
How the helpdesk supported it



What the customer really needed

"Everybody in this country should learn
to program a computer, because it
teaches you how to think"

- Steve Jobs



Computer is “Dumb”
unless we program it...

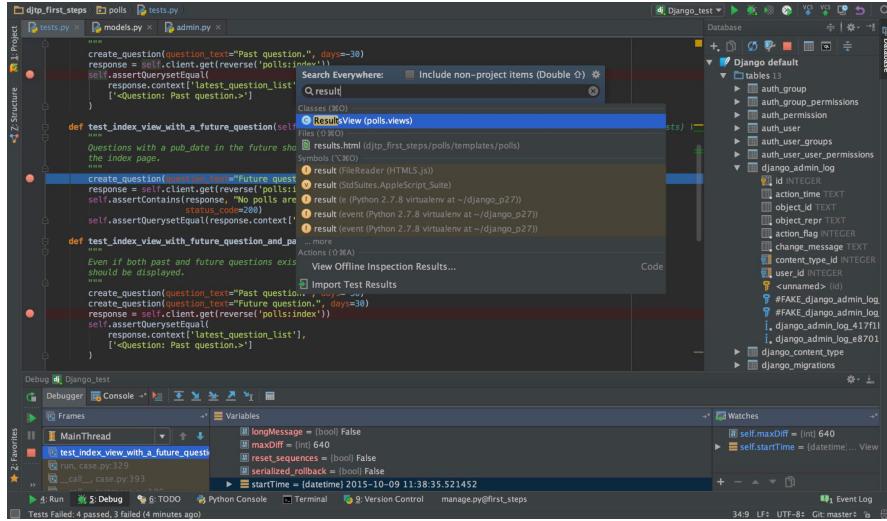
What is Programming?

Computer programming is
a way of giving computers instructions
about what they should do next.

These instructions are known as **code**, and computer programmers write code to solve problems or perform a task.



Integrated Development Environment (IDE)



A screenshot of the PyCharm IDE interface. The top navigation bar shows 'File', 'Edit', 'View', 'Code', 'Run', 'Tools', 'Help'. Below the bar are tabs for 'tests.py', 'models.py', and 'admin.py'. The main area is a code editor with Python test code for a Django application. A search bar at the top says 'Search Everywhere' with the option 'Include non-project items (Double ⌘)'. To the right is a 'Database' tool window showing tables like 'auth_group', 'auth_permission', 'auth_user', and 'django_admin_log'. At the bottom, the status bar shows 'Tests Failed: 4 passed, 3 failed (4 minutes ago)'.



An integrated development environment (IDE) is a software application that provides comprehensive facilities to computer programmers **for software development**.

Visual Studio Code (URL:
<https://code.visualstudio.com/>)

- IDLE (included in Python)
- Spyder (URL: <https://www.spyder-ide.org>)
- Jupyter (URL: <https://jupyter.org>)
- Notepad 😊, Notepad++

What is Python?



A **high-level**
programming language



Created in February **1991** by Guido van Rossum at
Centrum Wiskunde & Informatica (CWI) in the Netherlands

A **cross-platform**
programming language

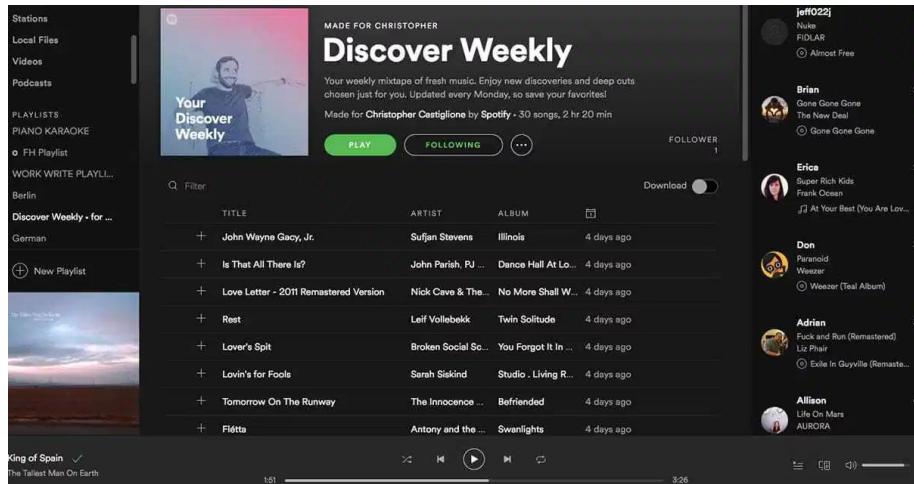
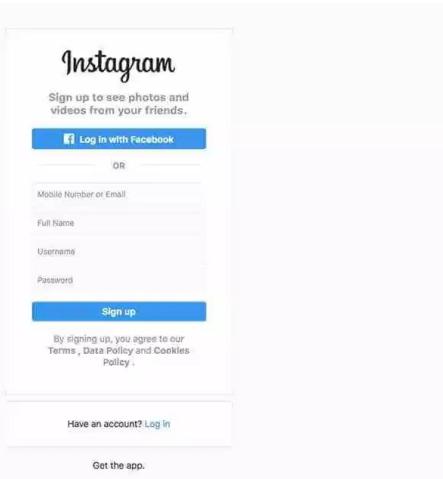


Free to use including for
commercial purposes



Python 3.10 (Download here: <https://www.python.org/>)

Python is useful for various purpose (1)



Instagram and Spotify app are developed using Python

Source: <https://learn.onemonth.com/10-famous-websites-built-using-python/>

Python is useful for various purpose (2)



<https://www.tensorflow.org/learn>
Python for **image recognition**

Image credits to: <https://medium.com/@zachary.bedell/image-recognition-using-tensorflow-and-probability-52f0e35de198>

Python is useful for various purpose (3)

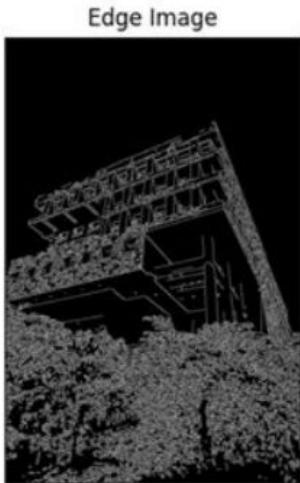
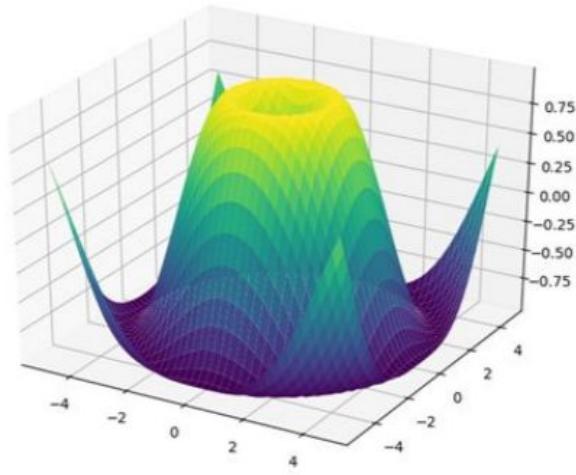


Image processing using Python

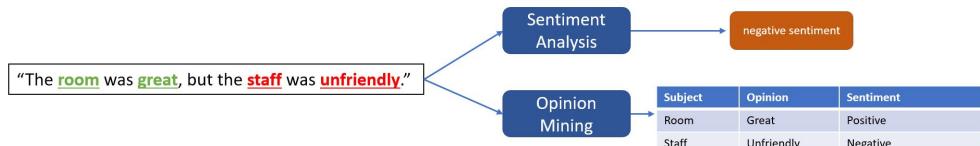
<http://opencv.org/>



Data science using Python

<http://matplotlib.org/>

Python is useful for various purpose (4)



Natural language processing using Python

https://github.com/amueller/word_cloud



Game development using Python

Bonus: Automate Boring Stuffs Using Python

The image is a composite of three screens. On the left is a YouTube video player showing a collection of international flags on a wooden floor. The video title is "How I asked EVERY country's embassy for flags [part 1]" and it has 6,068,401 views. In the center is a terminal window displaying Python code for reading a CSV file and concatenating email addresses. On the right is a Mac OS X desktop showing a terminal window with the same command.

How I asked EVERY country's embassy for flags [part 1]

6,068,401 views • Feb 29, 2020

327K likes 7.3K dislikes SHARE

Spaghetti Road 321K subscribers

SUBSCRIBE

```
ln: 4 Col: 39
import pandas as pd
path = 'flags.csv'
f = open('log.csv','w')
df = pd.read_csv(path,names=['origincountry', 'hostcountry', 'email', 'd', 'e'])
x=0
while x < 2500:
    df['email']=df['email'].str.replace('@','')
    email=df.iloc[x,y]
    while email.find('@') > -1:
        email=(str(df.iloc[x,y])+"."+str(df.iloc[x,y]))+"@"+str(df.iloc[x,y])
        y+=1
        email=str(df.iloc[x,y])
    x+=1
f.close()
```

Automate sending emails using Python

<https://www.youtube.com/watch?v=Jbix9y8iV38>

Course Information



Course Outline

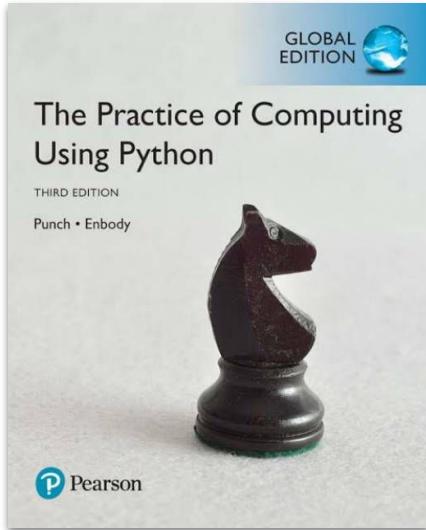
1. Introduction to Programming
2. Variable, Data Type, and Number System
3. Control Mechanism (Selection and Repetition)
4. Strings
5. Text files and exceptions handling
6. Functions and lists

Pre-Midterm topics

7. Tuples, mutability, sets, and dictionaries
8. Recursion
9. Object Oriented Programming (OOP)
10. Advanced OOP
11. Graphical User Interface (GUI)

Post-Midterm topics

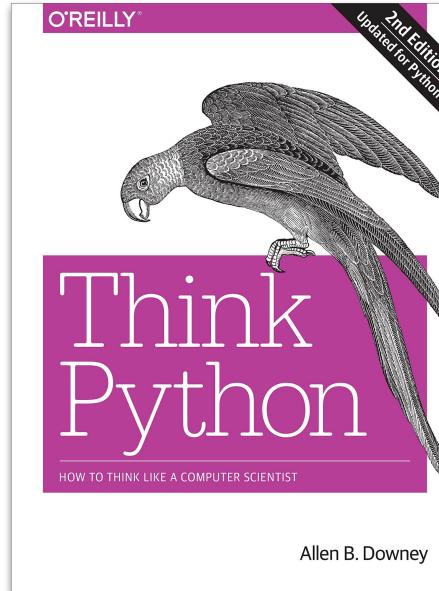
Learning Resources: Primary Reference Books



**The Practice of
Computing Using
Python (3rd Edition)**
2016

William F. Punch,
Richard Enbody

**Available at our
Faculty's Library**



**Think Python
(2nd Edition)**
2016

Allen B. Downey

Learning Resources: More Books

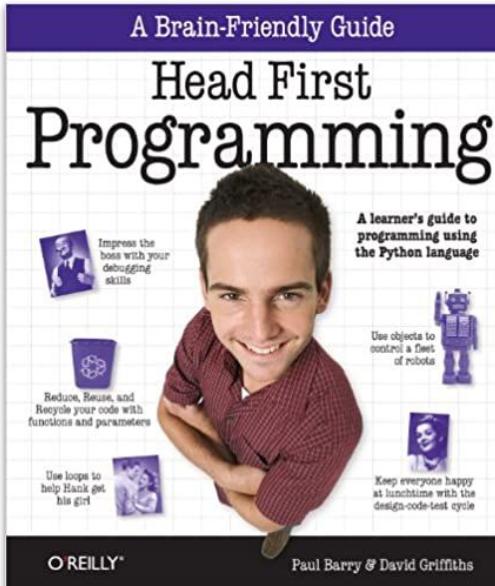


**How to Code in
Python**
2018

Lisa Tagliaferri

Free e-Book!

[https://assets.digitalocean.com/
books/python/how-to-code-in-pyt
hon.pdf](https://assets.digitalocean.com/books/python/how-to-code-in-python.pdf)



**Head First
Programming: A
Learner's Guide to
Programming Using
the Python Language**
2009

David Griffiths,
Paul Barry

Learning Resources: Online Learning

W3Schools (concise tutorials):

<https://www.w3schools.com/python/>

Tutorialspoint (tutorials with more explanations):

<https://www.tutorialspoint.com/python/index.htm>

Codecademy (self-paced courses and good course organization):

<https://www.codecademy.com/catalog/language/python>

Python documentations (VERY IMPORTANT!):

<https://docs.python.org/3/>

Youtube ^^

Stackoverflow (your partner when finding errors):

<https://stackoverflow.com/questions/tagged/python>

Python

Python is a general-purpose, interpreted, and high-level programming language. It's a great first language because it's concise and easy to read. Whatever you want to do, Python can do it. From web development to machine learning to data science, Python is the language for you.

Why we love it:

- Large programming community
- Excellent online documentation
- Endless libraries and packages
- World-wide popularity
- Powerful and flexible

Featured resources



FORUM
Python 3 Codemanship
Forums



CHEATSHEET
Python 3: Syntax
Cheatsheet



ARTICLE
Installing Python 3
Locally

Beginner friendly courses



SKILL PATH



SKILL PATH



SKILL PATH



Activities

Course Credit: 4 SKS

1. Lecture video

Provided in our Scele course page for all topics

2. Pre-class quiz

Via Quizziz (opt)

3. Post-class quiz

Via Quizziz (opt)

4. Synchronous session

Via Offline Classroom and Zoom

5. Programming lab/tutorial session (1x weekly)

Ask Asdos

6. Programming assignment(4x)

Submissions via slots in our Scele coursepage

7. Independent study

Learning Media



STUDENT CENTERED E-LEARNING ENVIRONMENT
FAKULTAS ILMU KOMPUTER

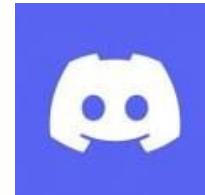
Our course page

<https://scele.cs.ui.ac.id/course/view.php?id=3392>



Our Class Session

Room A1.10
Online session will be notified



Our Lab Session

Link is provided in the course page

Grading

Score Components	Weight
Participation	5 %
Programming Lab (10x)	10 %
Programming Assignment (4x)	20 %
Quiz	10 %
Mid-Term Exam	25 %
Final Exam	35 %

Rules

1. Always prepare yourself before the class session

Watch lecture video, take pre-class quiz, read books

2. Don't worry about your grade

Just follow the instruction, take extra miles, you will eventually pass

3. Practice, practice, practice!

You need to hustle more to be a good programmer, BUT never forget to eat, rest, and exercise adequately.



No plagiarism will be tolerated



Don't hesitate to ask your
mentors

Tips (Tambahan)

1. **Jangan malu bertanya** atau meminta bantuan. Terutama jika Anda merasa benar-benar kesulitan. Dosen dan asisten dosen akan membantu atau mengarahkan. ^▽^
2. Begitu soal lab/tugas/forum diskusi muncul di SCeLE, **langsung baca** dan kembali lagi kemudian. Butuh waktu untuk memahami soal. Dengan membaca, setidaknya 'nempel' di kepala gambaran masalah yang akan dihadapi.
3. Baru belajar programming? PRACTICE, PRACTICE, PRACTICE ^-^
 - a. **Tidak bisa memiliki skill programming secara PASIF.**
 - b. Unduh semua kode yang disediakan, coba jalankan, dan ikuti apa yang kode tersebut kerjakan.
 - c. Jangan takut mencoba cara/strategi pemrograman atau sintaks baru yang berbeda dari yang diberikan di kelas.

Tentang Plagiarisme (1)

Plagiarisme tidak diterima di perkuliahan.

Contoh plagiarisme halus:

1. Diskusi dan bertukar ide dengan teman. Teman tidak di-acknowledge di pekerjaan yang dikumpulkan.
2. Mendapatkan sumber dari buku/internet yang membantu. Anda paham dan melakukan sedikit modifikasi. Sumber tersebut tidak di-acknowledge di pekerjaan yang dikumpulkan.
3. Mendapat kode teman dan memahaminya. Anda membuat kode Anda sendiri setelah terinspirasi dari programnya. Proses ini tidak Anda ceritakan di acknowledgement.



Tentang Plagiarisme (2)

Tips menghindari plagiarisme:

1. Jika Anda mendapatkan bantuan dari orang lain atau sumber di internet, ceritakan apa adanya proses bagaimana Anda menggunakan bantuan tersebut untuk membuat karya/program Anda (mis. cantumkan tautannya jika dari internet).
2. Anda sewajarnya akan dinilai sesuai besar kontribusi Anda dalam membuat karya/program tersebut



Tentang Plagiarisme (3)

Seputar plagiarisme:

1. Biasanya mahasiswa melakukan plagiarisme karena ‘kepepet’ dan merasa tidak akan dapat menyelesaikan persoalan yang sedang dihadapinya sehingga diambilah jalan pintas yang ternyata adalah plagiarisme yang cukup parah (mis. menjiplak kode apa adanya dan berpura-pura itu Anda yang memikirkannya).
2. Dalam keadaan sesulit apapun, jangan ragu untuk meminta bantuan kepada dosen / asisten dosen.
3. Pengecekan plagiarisme akan dilakukan.



Let's get started

STEP 1

1. Please update your **profile picture** in Scele
2. Please update your **name** in Scele

Naming format: **Full Name_NPM**

Example: Lintang Matahari Hasani_1906437951

3. A quick tutorial for using Scele:

You may try the following activities in Scele:

- a. Download this slides
- b. Post your self-introduction in the forum
(...)
- c. Submit a file (empty .txt is OK)
to this submission slot
(...)



STEP 2

Prepare your essential weapon

1. Install the **latest version of Python**

<https://www.python.org/downloads/>

2. Get an Integrated Development Environment (IDE)

- a. VSCode (Free)
- b. Notepad++
- c. Google Colab (Online)
- d. Pycharm
- e. Thonny (Free)
- etc...

Code your first program ^^

