

## BOOTCAMP PROGRAM

# Mastering AI: From Foundations to Applications

**Beginner-  
Friendly**  
for people with  
no coding  
experience





**RUANGGURU  
ENGINEERING  
ACADEMY+**

**SKILL  
ACADEMY  
PRO**

# WHY **SKILL ACADEMY PRO?**



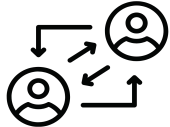
## **Self-paced Learning**

An asynchronous learning, through video and reading material from credible sources.



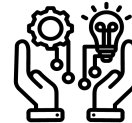
## **Real Life Study Case**

A study cases discussion led by experienced instructor, for better and deeper understanding.



## **Interactive Live Sessions**

An interactive learning sessions, held through online platform.



## **Hands-on Project**

A final project initiated by students, to build a career portfolio.



## **Curated Mentors**

Instructor with >3 years of experience, who have passed the teaching competencies test.



# PROGRAM **DETAIL**

An intensive bootcamp to master AI in 12 weeks and start the career to become AI Engineer

**#1**

36 Live Sessions

**#2**

Lifetime Access to Learning  
Material

**#3**

Ask Mentors Anytime

**#4**

+8 AI Applications Base  
Projects

**#5**

Enhanced with Preparation  
Class (up to 6 sessions)

**#6**

Full and Partial Scholarship

Beginner-  
Friendly



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# LEARNING JOURNEY

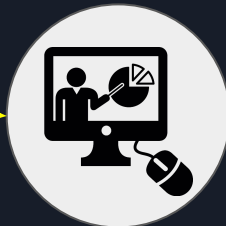
## Preparation Class\*

This sessions are designed for students who have no engineering background. Interactive sessions up to 6 sessions to get yourself prepared with fundamental knowledge (Python & Statistics)



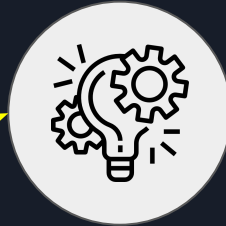
## Learning Session

Have interactive sessions with experienced instructors in Machine Learning and Data Scientist with 4+ years of experiences



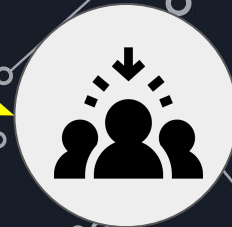
## Build +8 AI-Based Projects

Complete the mid test and final projects at the end of program.



## Selection Process

Get a chance to be hired as Ruangguru Intern.  
Get paid and build awesome projects



## Ruangguru Internship Program

Best participants will be selected to join in Ruangguru Internship Program.

*\*The sessions are mandatory for participants who have no coding experience. No extra cost added.*

# LEARNING SYLLABUS



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## #1: THE FOUNDATIONS

1. Learning Python, Accelerated
2. Version Control
3. Foundational Statistics
4. Data Wrangling with Pandas
5. Data Cleansing Techniques
6. Visualizing Data with Matplotlib
7. Math: Linear Algebra & Calculus
8. Exploring Traditional Machine Learning

1

### PHASE 1

Week 1-4 | 12 sessions

## PHASE 2

Week 5-8 | 12 sessions

2

## #2: AI MASTERY

1. Machine Learning Fundamentals
2. Introduction to Deep Learning
3. Implementation Deep Learning with Pytorch
4. Introduction to Transformers & Huggingface
5. Model Hub
6. Transfer Learning
7. Database & SQL Programming

## #3: THE APPLICATIONS

1. Convolutional & Neural Network & Computer Vision
2. Exploring Latest AI trend: GPT 4, Stable Diffusion
3. Natural Language Processing with Transformer (Text & Audio)
4. Building Realworld NLP app with LangChain/Semantic Kernel & Vector Database

3

### PHASE 3

Week 9-12 | 12 sessions





# LEARNING SYLLABUS

Week	Title	Description
Week 1	Learning Python, Accelerated	Master Python skills with a focus on studying Machine Learning. With an accelerated approach facilitating students to build, automate, and analyze data from Machine Learning.
Week 2	Version Control	Learn the concept of version control to manage changes in the development of software.
	Foundational Statistics	Learn the concepts of the basics of statistics and practical skills in gathering, processing, and analyzing data. Basic knowledge of statistics is very necessary to master the science of artificial intelligence.
	Pandas and Data Cleansing	Learn data manipulation and efficient data cleansing tips using Python Pandas, one of the powerful data analysis tools.
Week 3	Data Visualization	Master the art of visualizing data with matplotlib tools. Make a visual of raw data that allows proper decision making and pre-processing machine learning models effectively.
Week 4	Exploring Traditional Machine Learning Techniques 1-2	Learn the basic concepts and techniques in traditional Machine Learning. Learning deeper about various algorithms and their implementation in the task of modeling and data classification.



# LEARNING SYLLABUS

Week	Title	Description
Week 5	Machine Learning Fundamentals	Learn how to apply Machine Learning Model effectively by making fire that is easy to use. Take advantage of the strength of your model in real world applications by making it accessible, adjusted and easily integrated.
	Deep Learning 1-2	Divide the world of artificial intelligence by learning deep learning. Build a basic understanding of the main principles of neuro-system.
Week 6	Implementation Deep Learning with Pytorch 1-3	Start a career journey as an AI engineer through learning deep learning by mastering Pytorch. Learn how to build, train, and perfect neuro-system effectively accompanied by direct practice.
Week 7	Intro to Transformers and Huggingface Library and Pipeline	Learn Transformers Model and Huggingface Library which plays an important role in tasks related to the Neurolinguistic Program (NLP).
	Model Hub	Introduce the concept of the hub model and how to access, scroll, and apply model-learning models that already exist in various AI tasks and projects.
	Transfer Learning 1-2	Learn a strong understanding of the concept and practice of transfer learning in machine learning. Understand how to use existing Machine Learning Models to overcome new tasks, optimize the performance of the model, and save time and resources in AI development.



# LEARNING SYLLABUS

Week	Title	Description
Week 8	Database and SQL Programming 1-2	Learn about the basics of databases, database management, and SQL programming. Divine how to design, manage, and retrieve data from a database, which is a very important skill in the development of application and data analysis.
Week 9	Convolutional Neural Network & Computer Vision 1-3	Explore the world of visual recognition by learning about Convolutional Neural Networks (CNNs) and its application on Computer Vision. Find how to use CNN for image classification, object detection, etc., increase your skills in processing and interpreting complex visual data.
Week 10	Exploring Latest AI trend: GPT 4, Stable Diffusion 1-2	Follow the development of the AI landscape that is growing rapidly by examining innovative technology such as GPT-4 and Stable Diffusion. At the end of the program, students will be invited to use and innovate with the latest AI tools





# LEARNING SYLLABUS

Week	Title	Description
Week 11	Natural Language Processing with Transformer (Text & Audio) 1-5 <ul style="list-style-type: none"><li>- Intuition</li><li>- Embedding</li><li>- Preprocessing</li><li>- Seq2seq with RNN</li><li>- Attention</li></ul>	Divide the world of NLP by mastering Transformers, the latest technology to understand and produce human -like language through text and audio. Learn how to make models that can perform tasks such as translation, summary, and sentiment analysis, as well as making GPT chat with AI
Week 12	Building Realworld NLP app with LangChain/Semantic Kernel & Vector Database 1-3 <ul style="list-style-type: none"><li>- Novel AI + Prompt Engineering</li><li>- API + Langchain Basic</li></ul>	Improve Language Processing skills by developing NLP applications that use Langchain, Semantic Kernel, and Vector Databases.



# CAREER CLASS

**BONUS  
CLASS**

## Program Syllabus

Menyusun Curriculum Vitae (CV) *ATS-Friendly*

Mempersiapkan Diri untuk Wawancara Kerja (*Interview*)





# LEARNED SKILLS



## HARD SKILL

Python

Data Processing & Visualization

Computer Vision with CNN

Deep Learning with Pytorch

NLP with Transformer, etc



## SOFT SKILL

Critical Thinking & Public Speaking

Public Speaking & Communication

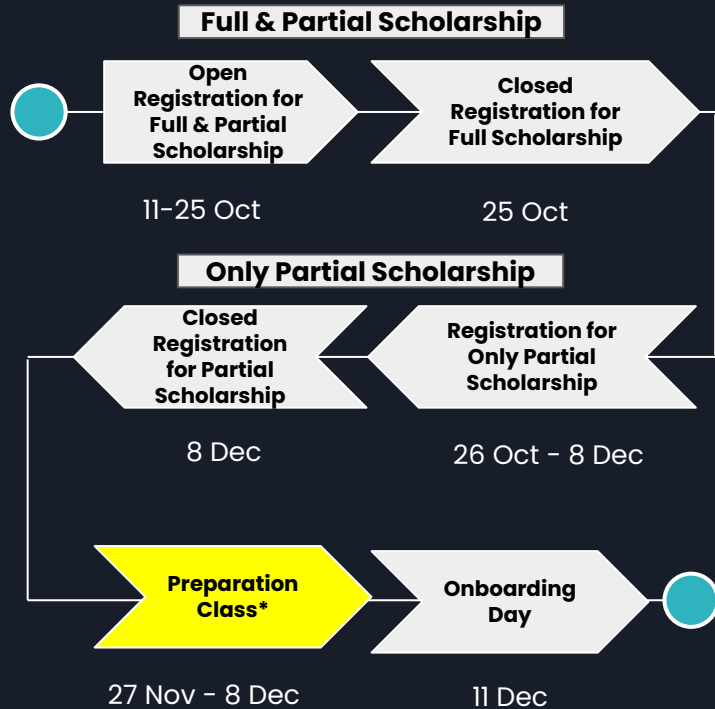
Project Management

Research

Decision Making,, etc



# SCHOLARSHIP **TIMELINE**



*\*Mandatory for students with no coding experience*

# REQUIREMENTS

1. Anyone from all educational backgrounds with interests in Computer Science and AI are welcome to join.
2. Demonstrated high interest in the development of AI Technology.
3. Willingness to commit in our 12 weeks bootcamp program to maximize knowledge acquisition and skill developments.



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# PROGRAM INVESTMENT

## Tuition Fee

~~Rp 15.000.000,00~~

**Rp 5.000.000,00**

(Disc. up to 100%)



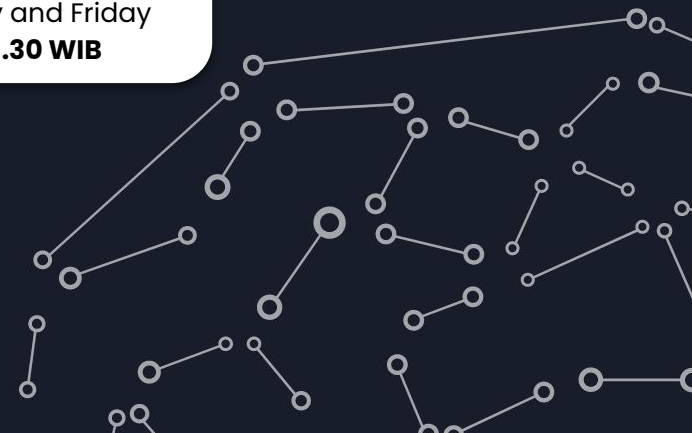
**Full and Partial  
Scholarship  
Available**

**LIVE ON**



**zoom**

Every Monday,  
Wednesday and Friday  
**19.30–21.30 WIB**





# FREQUENTLY ASKED QUESTIONS

Q: What is the difference between other bootcamps and Ruangguru Engineering Academy+ x Skill Academy Pro?

A: Ruangguru Engineering Academy+ x Skill Academy Pro is an exclusive bootcamp program designed specifically for engineers who have a keen interest in AI. you will have the opportunity to be mentored by engineering experts from Ruangguru, participate in hands-on real projects, build a professional network, and enhance your technical expertise. Additionally, there is a chance to have exclusive access to join our paid internship program at Ruangguru

Q: Who can join?

A: Anyone from all educational backgrounds with interests in AI technology are welcome to join

Q: Do I need to have experience and expertise in programming?

A: If you have prior relevant experience, that's great! However, if you are not sure, as long as you have experience in any programming languages, you will be able to catch up with the curriculum like the wind

For full FAQ, visit  
[rea.ruangguru.com](https://rea.ruangguru.com)



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# APPLY SCHOLARSHIP



<https://bit.ly/mastering-ai-bootcamp>



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# CONTACT US



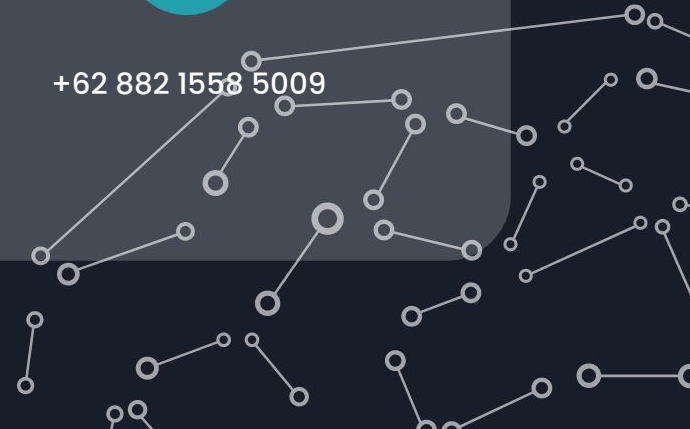
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/Publicity  
/Promotion  
/Research  
/Business  
/Development  
/Engineering  
/Information Technology