



Build with Gemini

AI Build with AI  
**DEV CAMP 2024**

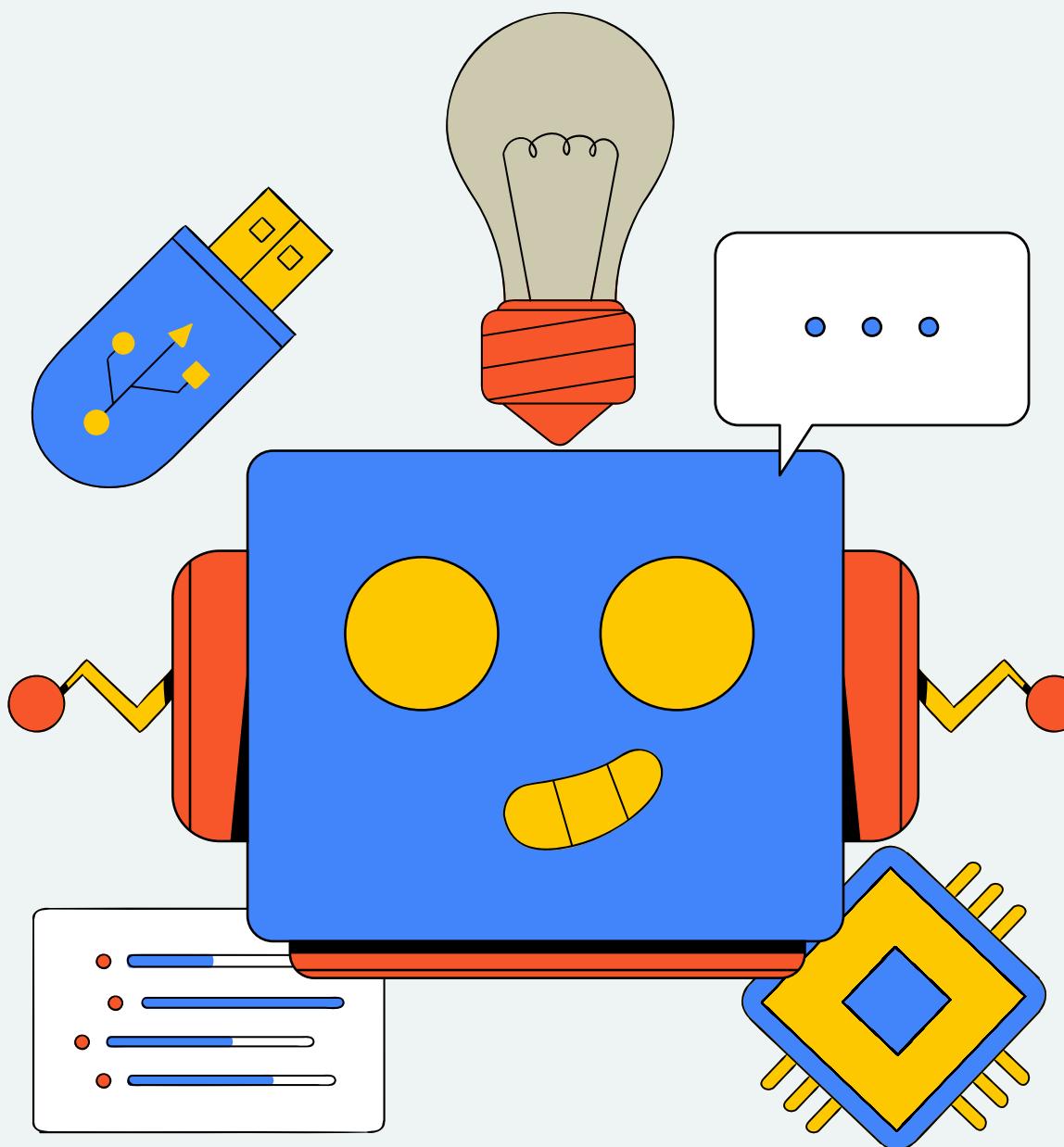
8 weeks DevCamp



Start from 16th May

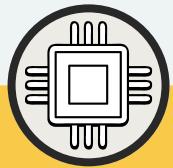


# WHY YOU SHOULD YOU JOIN?



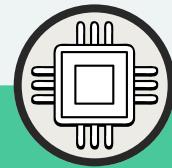
- Clear Learning Roadmap
- Learn from Experts
- Assignments and Capstone projects
- On-going learning support with our mentors
- Certification

# SCHEDULE



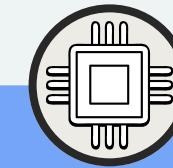
## WEEK 1 KICK-OFF

16th - 6pm to 7.30 pm  
18th - 10am to 12 pm



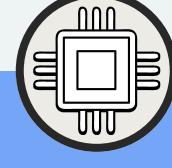
## WEEK 2

23rd May - 6pm to 7.30 pm  
25th May - 10am to 12 pm



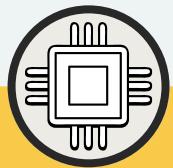
## WEEK 3

30th May - 6pm to 7.30 pm  
1 nd June - 10am to 12 pm



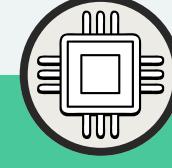
## WEEK 4

6TH June - 6pm to 7.30 pm  
8 th June - 10am to 12 pm



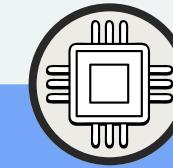
## WEEK 5

13TH June - 6pm to 7.30 pm  
15 th June - 10am to 12 pm



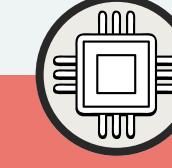
## WEEK 6

13TH June - 6pm to 7.30 pm  
15 th June - 10am to 12 pm



## WEEK 7

13TH June - 6pm to 7.30 pm  
15 th June - 10am to 12 pm



## GRADUATION CEREMONY

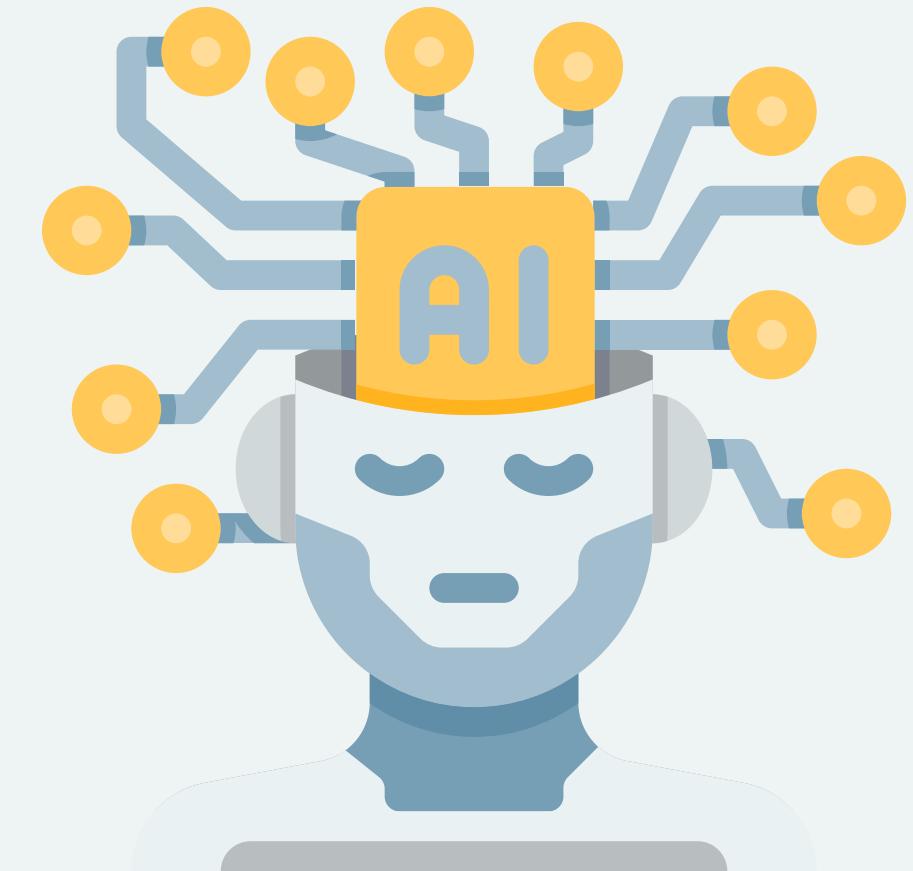
4TH July - 6pm to 7.30pm  
6TH July - 10am to 12pm



# WEEK 1

## INTRODUCTION TO AI

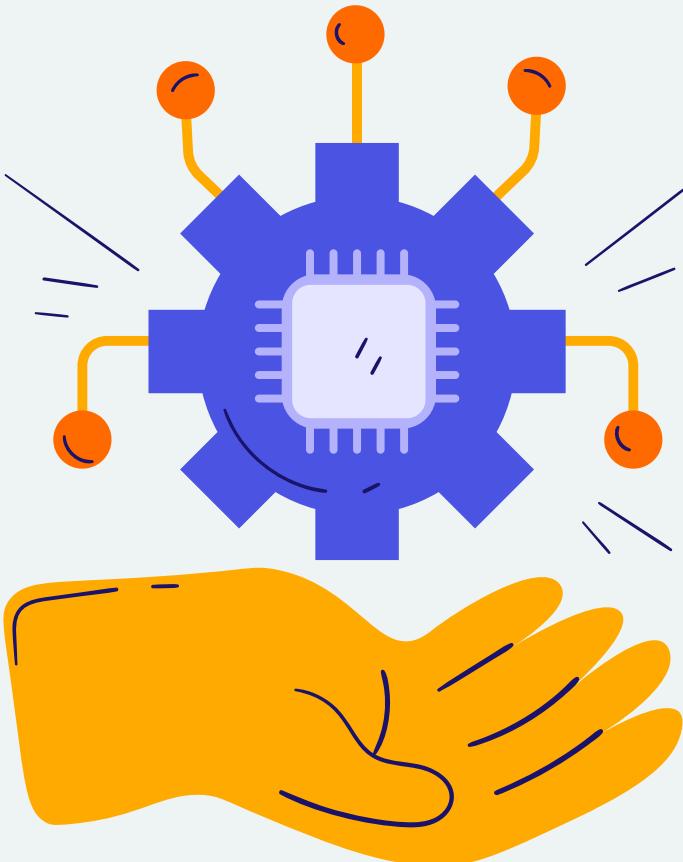
- A Brief History of AI
- Discuss real-world applications of AI across different industries.
- Define AI and its various branches (Machine Learning, Deep Learning, Natural Language Processing, etc.)
- ML terminology
- Practice: Introduction to AutoML – linear regression
- Practice: Python for AI
- Introduce essential Python libraries for AI development (NumPy, Pandas, Matplotlib).
- Focus on practical exercises involving data manipulation, visualization, and basic ML tasks.



## WEEK 2

# RESPONSIBLE AI

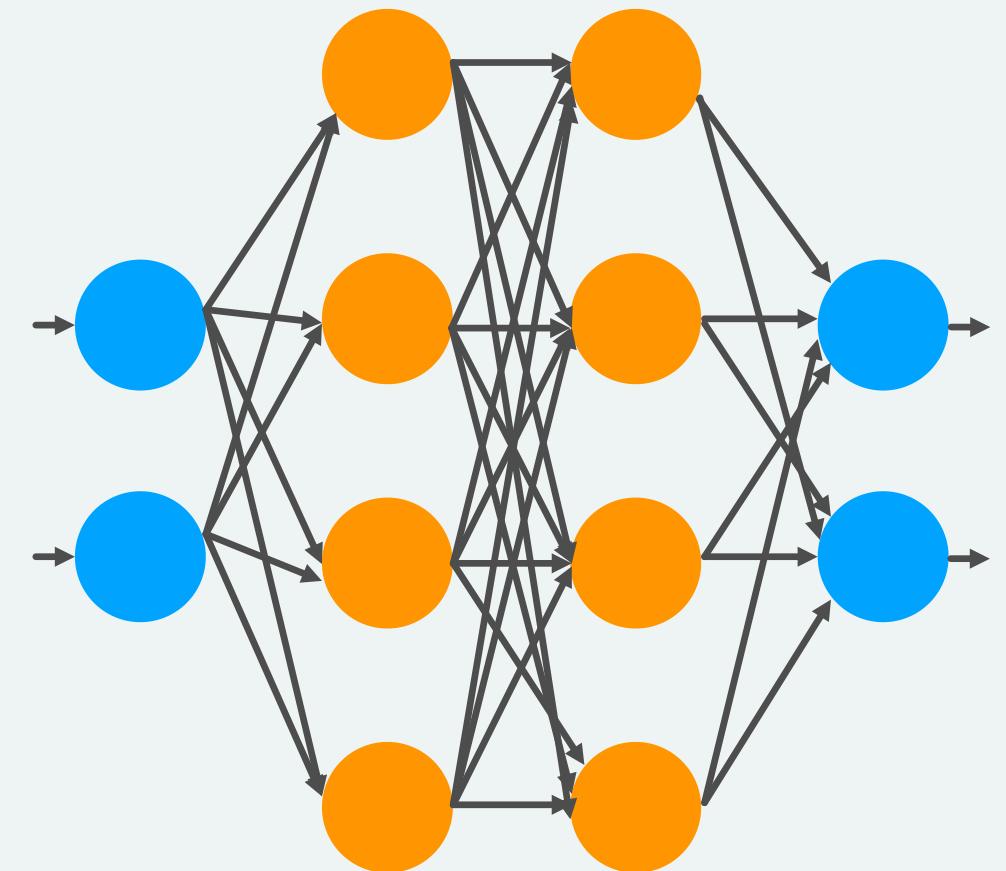
- Introduction to Responsible AI
- Why is it important
- Fairness and Bias
- AI Interpretability & Transparency
- Practice -> discuss use cases



# WEEK 3

## INTRODUCTION TO DEEP LEARNING

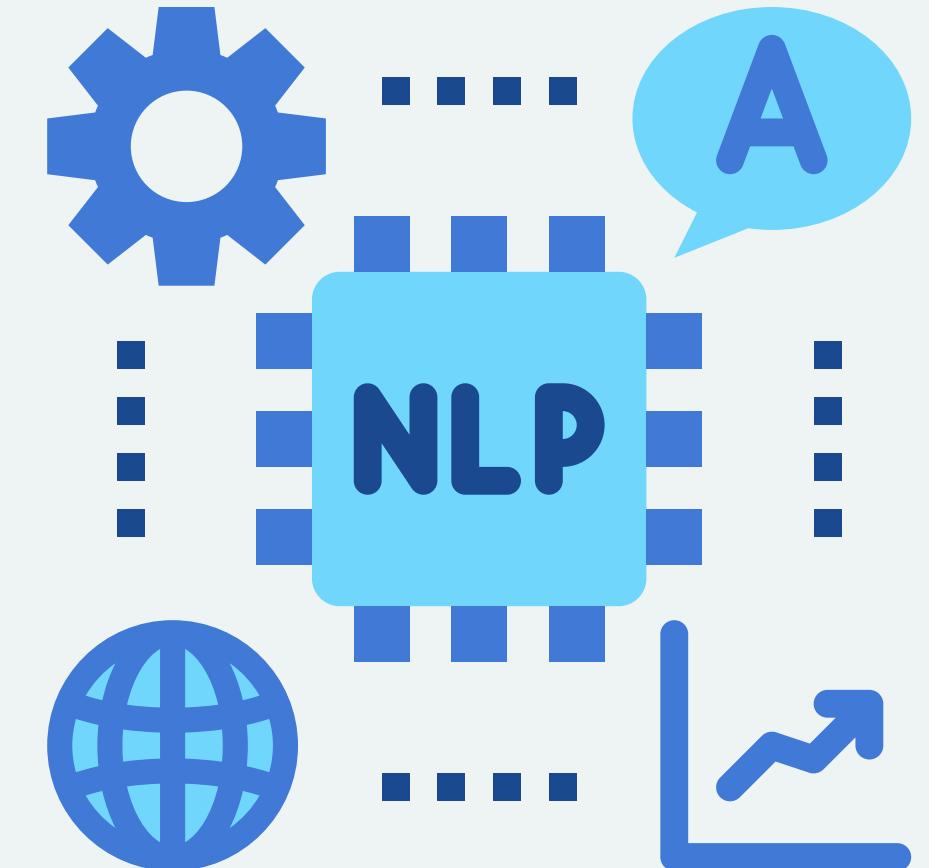
- What is Deep Learning?
- Introduction to Neural Networks
- What are they?
- Why and when to use Deep Learning
- How to measure success with Deep Learning
- Common applications
- Introduction to TensorFlow through hands-on exercises
- Intro to Neural Networks Colab exercise



# WEEK 4

## INTRODUCTION TO NLP

- Introduction to NLP: NLP and its core tasks (text classification, sentiment analysis, machine translation, etc.) + applications (chatbots, virtual assistants, social media analysis).
- Text Preprocessing: Data cleaning and pre-processing for NLP tasks (tokenization, removing stop words, stemming/lemmatization)
- Text Representation:
- Introduce the concept of converting text into numerical features for machine learning algorithms.
- Introduce Bag-of-Word and TD-IDF
- Practice: Sentiment analysis



## WEEK 5

## INTRODUCTION TO GENERATIVE AI

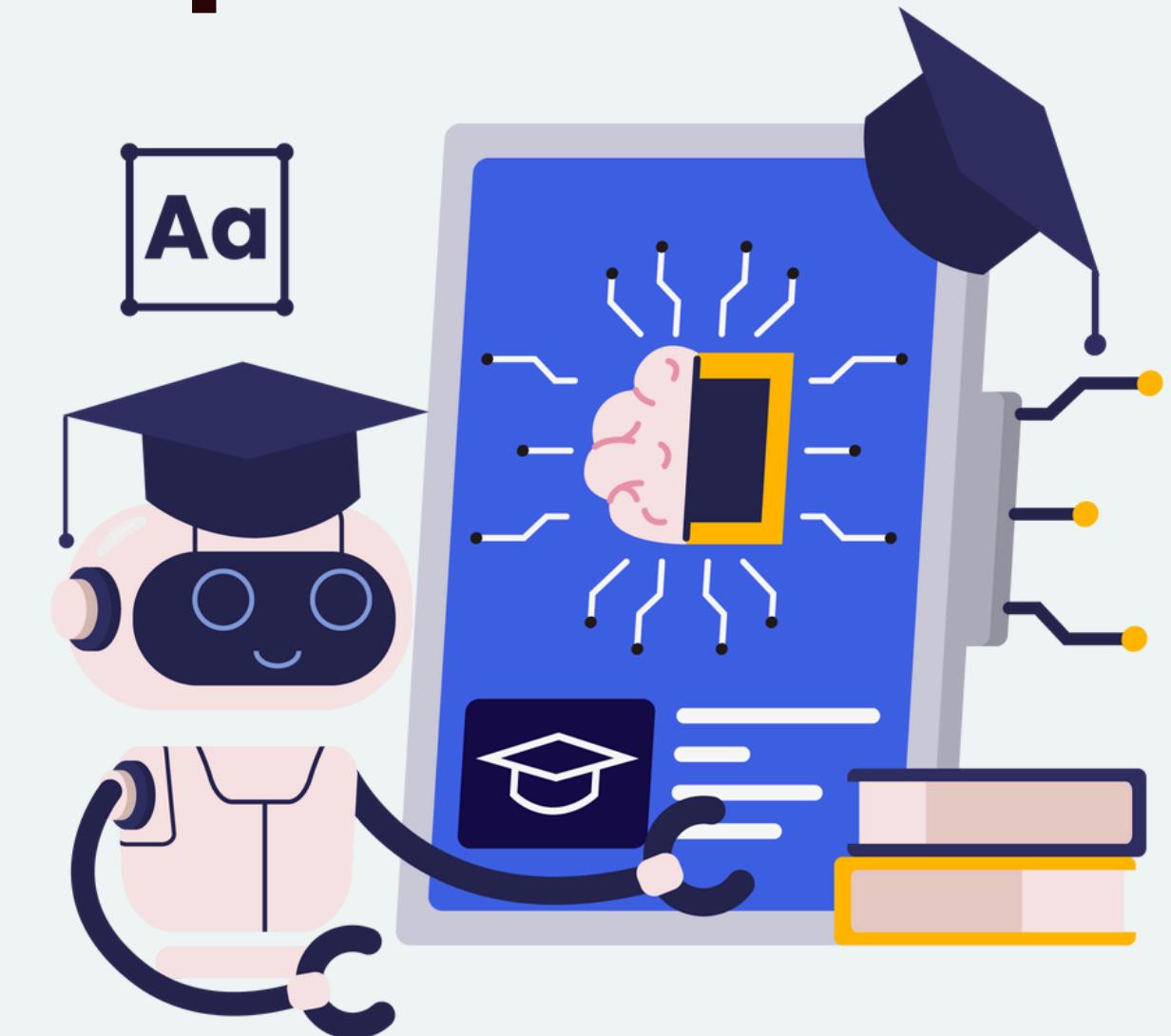
- Introduction to LLMs:
- The Transformer (what is it, how it works and differs from traditional NLP)
- The LLM revolution
- Intro to Vertex AI Studio
- Intro to the PaLM API
- Prompt Engineering
- Basic prompting: personas, data/prompt structuring, one-shot vs few-shot prompting
- Advanced prompting: chain-of-thought, generated knowledge, least to most prompting
- Practice: build an app with Vertex Studio



## WEEK 6

# ADVANCED GENERATIVE AI TECHNIQUES

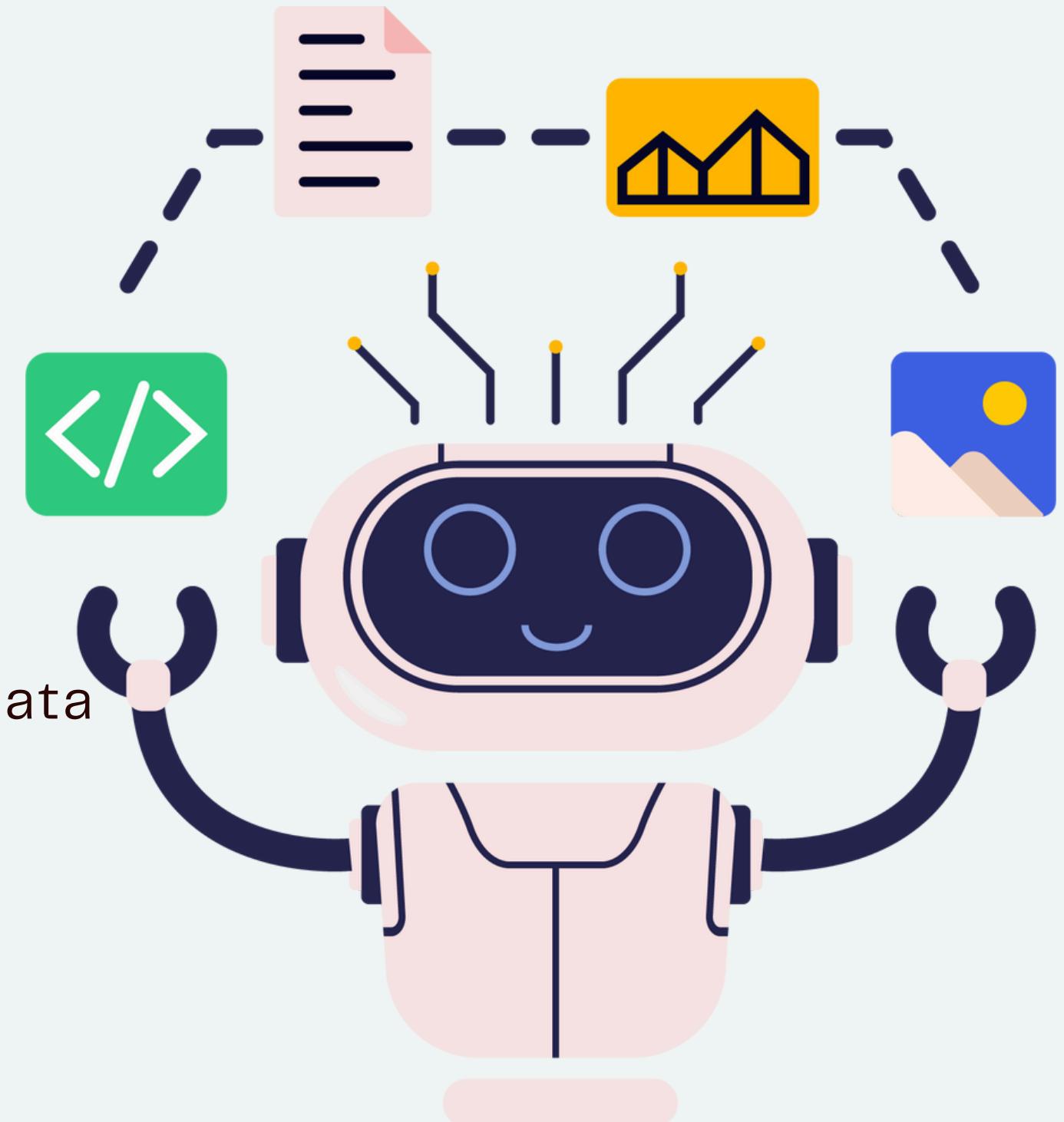
- Fine-Tuning – Learn how to specialize a Large Language Model for a specific task
- What is fine-tuning and why fine-tune?
- What data will I need?
- Pitfalls of fine-tuning
- Introduction to Vector Database for Generative AI
- What are vector database
- How do they work
- Text chunking and embedding
- Introduction to Retrieval-Augmented Generation
- How to leverage Vector Database to enhance the knowledge of a Large Language Model
- Practice: RAG tutorial using Vector Search on Vertex AI



# WEEK 7 & 8

## SPECIAL TOPICS

- Computer vision + Intro to AutoML Vision on Vertex AI
- ML Engineering
- Design thinking for AI
- How to carry out an AI project
- Different careers in AI (Data scientists, ML engineers, Data analysts, product managers, data engineers) -> a panel discussion?



# WEEK 8

## PROJECT REVIEW AND GRADUATION CEREMONY



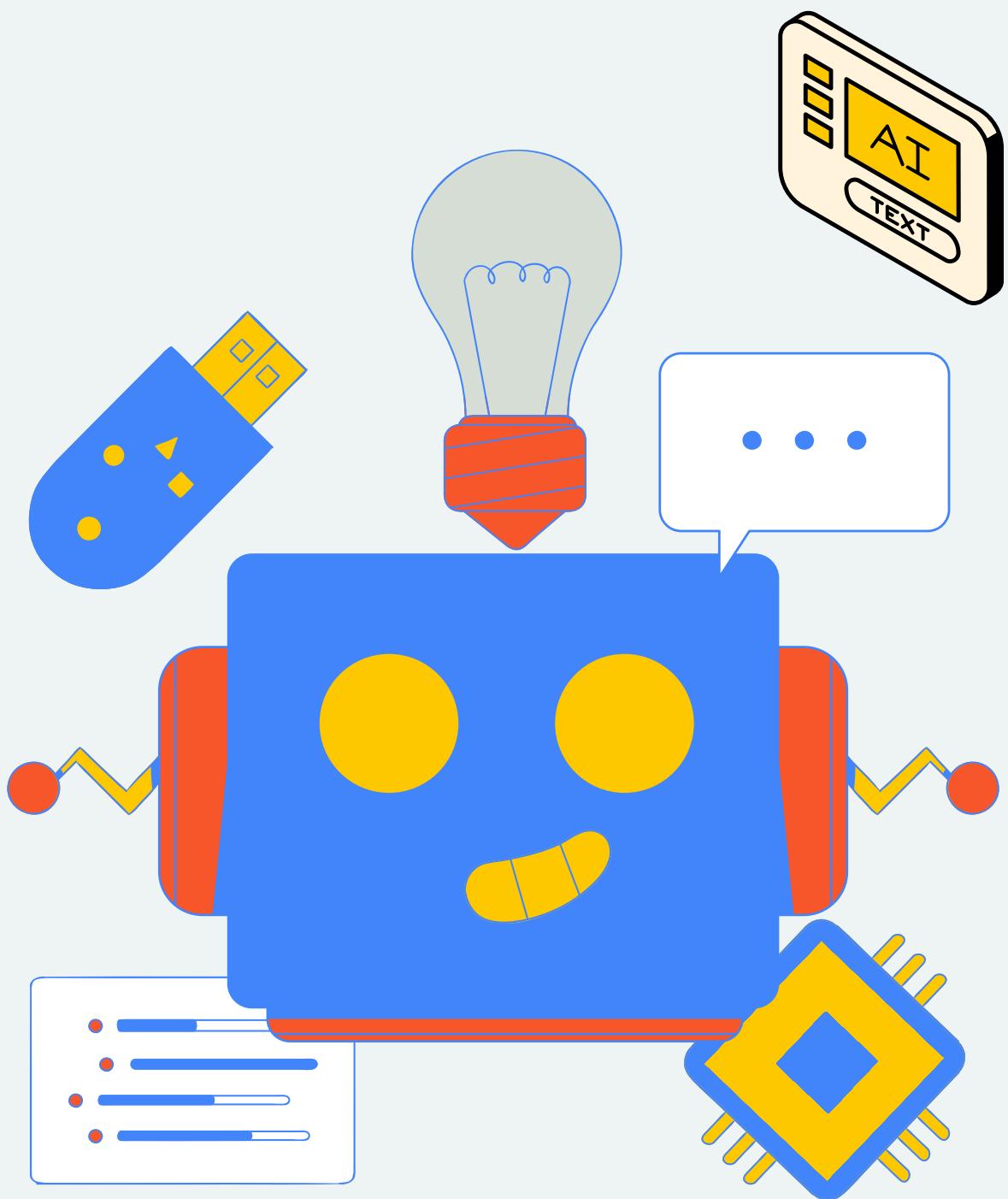
- Reviewing all projects.
- Getting tips from different experts.
- How to create a developer resume
- Further learning recommendations



AI

Build with AI

DEVCAMP 2024



# THANK YOU

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