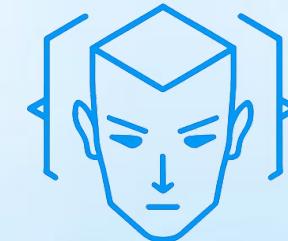


ZUU CREW INAUGURAL WEBINAR

Welcome to the first '**Zuu Crew**' webinar, where we'll explore the journey from zero to building sophisticated Multi-Agentic systems.



Zuu Crew

The Machine Learning Academy

From '0' to Multi-Agentic Systems

Isuru Alagiyawanna

Head of AI @ Veracity Group

Co-Founder @ TalentSync AI / Zuu Crew



About Me



Experience

4+ Years of AI/ML Industry Experience



Certifications

100+ Certifications (Coursera, Udemy, etc.)



Learning

Over 7,500+ Hours of Online Learning



Teaching

Former Lecturer at SLIIT



Agenda

Why Zuu Crew?

Understanding the problem and our solution

Our Unique Approach

Learning methodology and community structure

Intensive focused learning Tracks

Concept-based vs. Project-based learning paths

10-Course Deep Dive

Detailed curriculum overview

Hackathons & Community

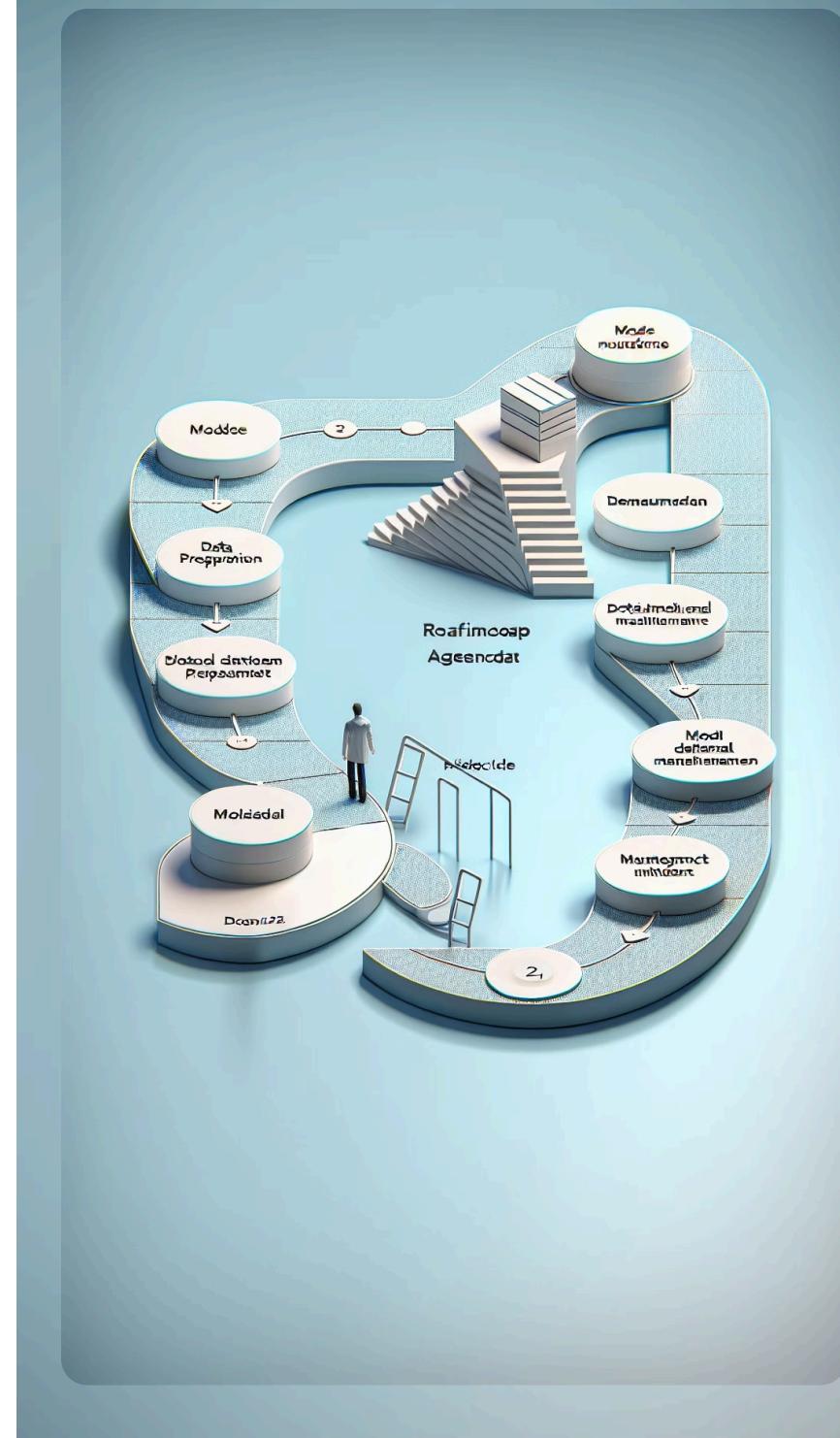
Collaborative learning opportunities

Career Roadmap

Growth pathways and opportunities

Open Q&A

Interactive discussion session





Why Zuu Crew?

Let's explore why Zuu Crew exists and the gap we're filling in the AI education landscape.

The Problem We're Solving in Sri Lanka



Jupyter Limitations

99% of AI/ML courses stop at Jupyter notebooks



Deployment Gap

No guidance for deployment or CI/CD



Fragmented Learning

Students get lost in fragmented self-learning paths

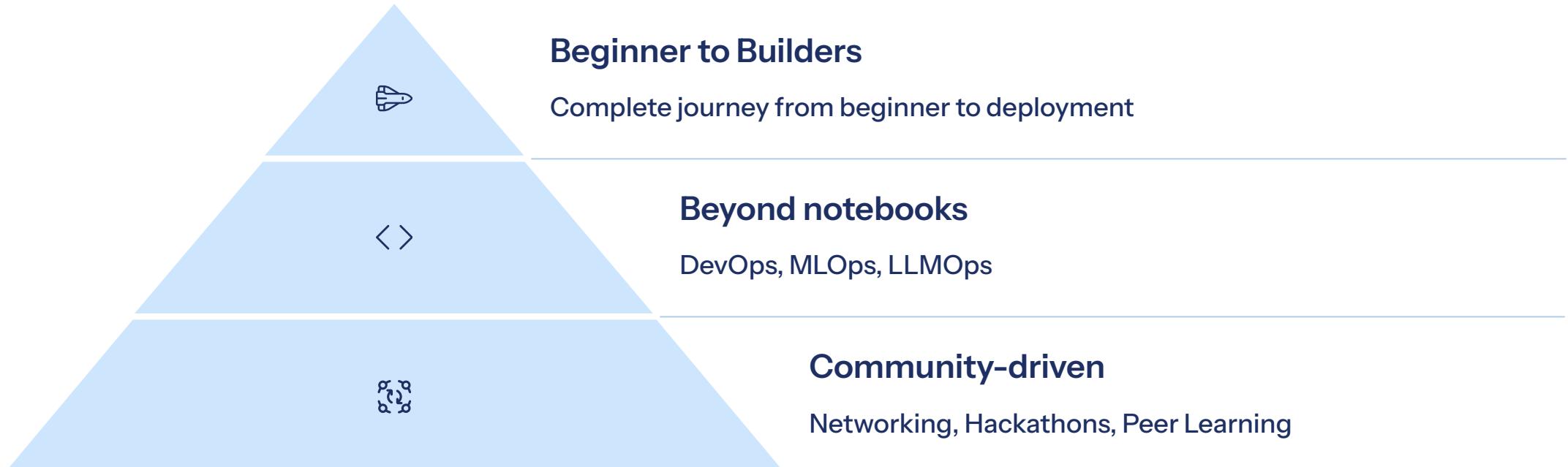


Theory-Practice Divide

There's no bridge between conceptual learning and real-world application



What is Zuu Crew ?

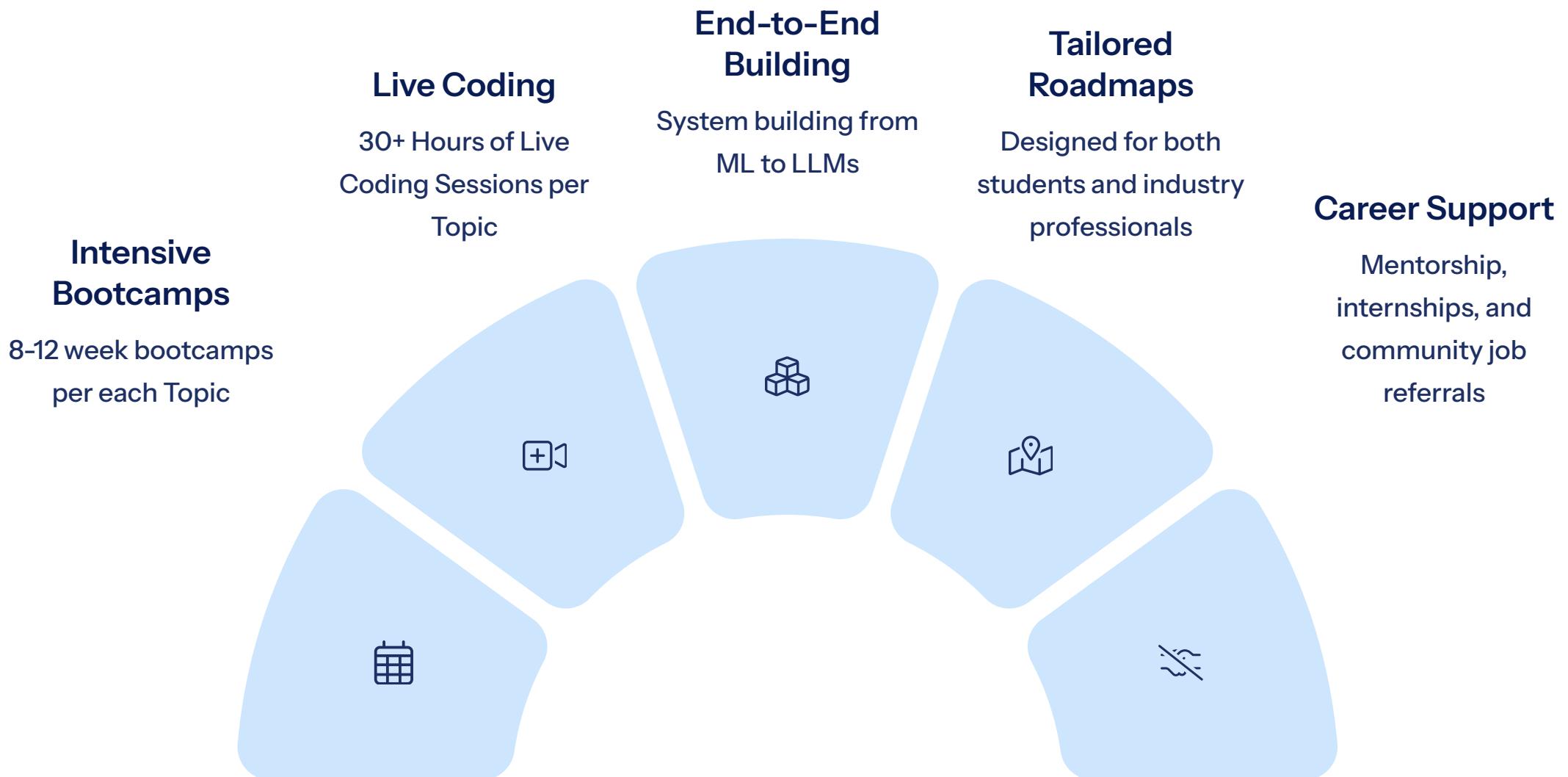


Our Unique Approach

How we differentiate our learning experience from traditional courses.



What We Do at Zuu Crew



Our Learning Culture



Active Community

Discord & WhatsApp groups for continuous learning and support



Weekly Challenges

Regular challenges and mini-hackathons to apply skills



Peer Learning

Code reviews & project showcases to learn from others



Intensive focused learning Tracks

Our specialized learning tracks designed to meet different learning styles and goals.



Concept-Based Learning

Goal

Build a strong foundation in theories, algorithms, and best practices

Theory-First

Focus on understanding core principles of ML, DL, NLP, CV, MLOps

Depth Over Speed

Emphasis on knowing why things work before jumping to how

Exam-Ready

Suitable for students, researchers, or certification preparation

Reusable Knowledge

Makes it easier to learn any new framework or library later

Project-Based Learning

Goal	Learn by building real-world systems and deploying them
Hands-On First	Immediate exposure to tools like FastAPI, Docker, AWS, LangGraph
Build to Learn	Concepts are learned in the process of solving practical problems
Production Mindset	Every course ends with a working app or system
Portfolio-Driven	Perfect for career switchers or job seekers who want to show proof of work



Why Offer Both?

Different Entry Points

Every learner has a different starting point and learning style.

- Some need to understand deeply before they build
- Others need to build quickly to stay motivated

Bridging Both Paths

Zuu Crew bridges both paths — so you can start where you are and grow into the AI builder you want to be.



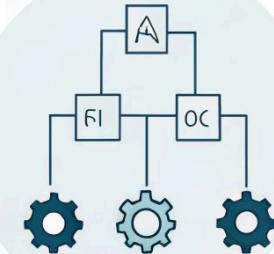
Concept-Based Learning Track

Introduction

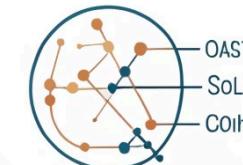
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Foundations



Advanced Networks



Course 1 – Foundations of Machine Learning



Mathematical Foundations

Linear algebra, calculus, probability, and statistics essentials for ML



Supervised Learning

Regression, classification, decision trees, ensemble techniques



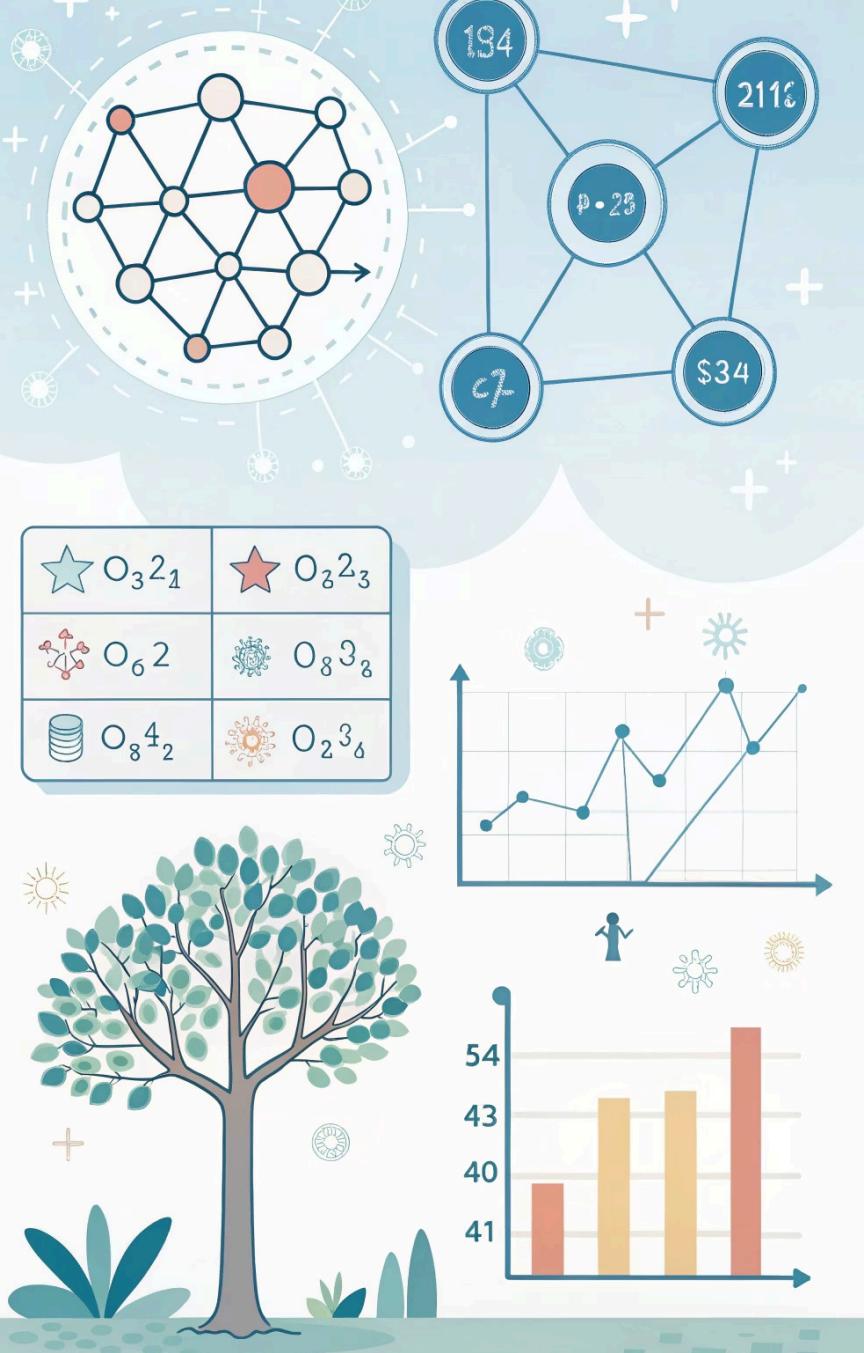
Unsupervised Learning

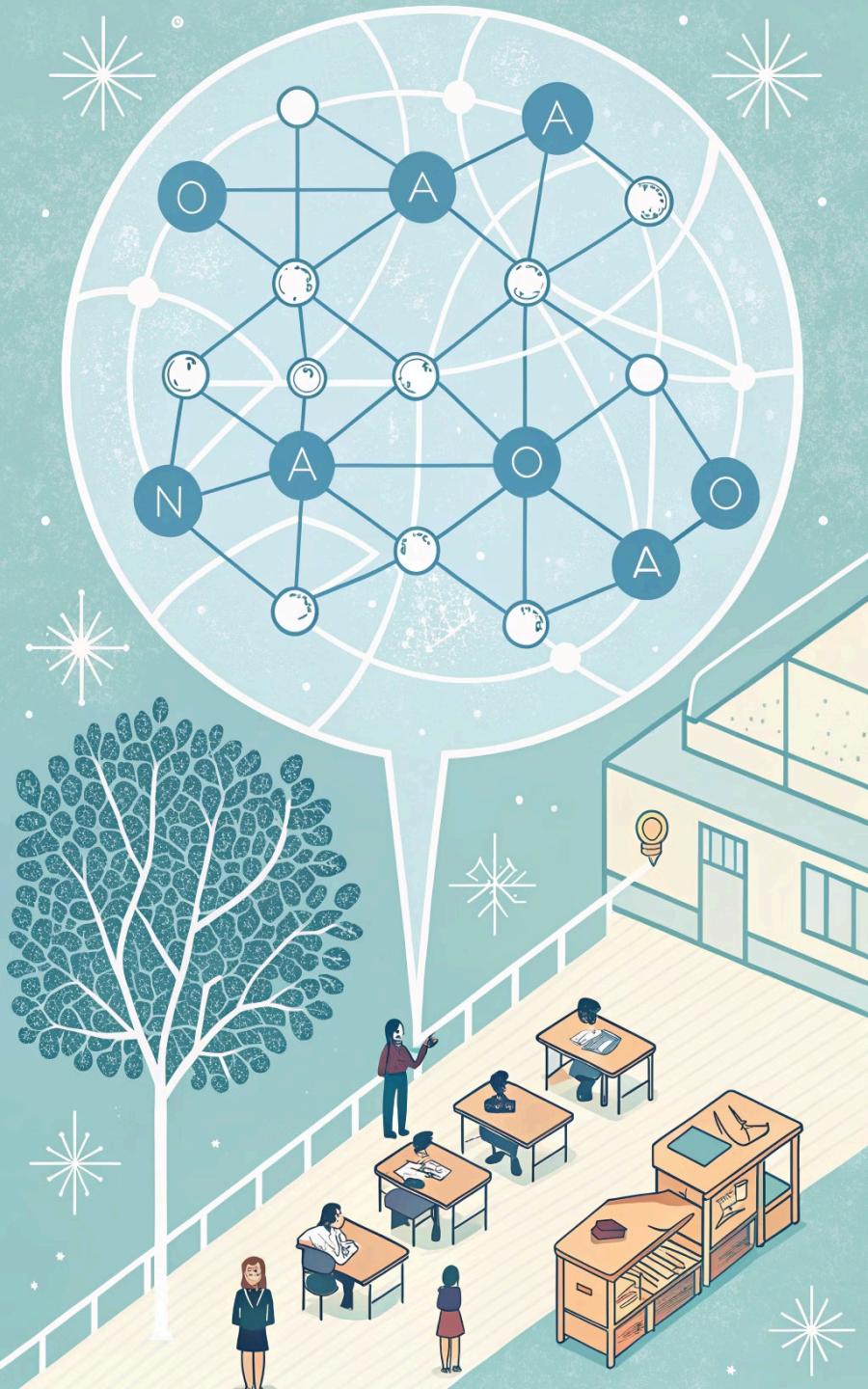
Clustering (K-Means, DBSCAN), dimensionality reduction (PCA, t-SNE)



Model Evaluation & Tuning

Cross-validation, confusion matrix, ROC-AUC, precision-recall





Course 2 — Deep Learning & Neural Networks



Neural Network Fundamentals

Perceptrons, forward/backward propagation, activation functions

Training Deep Models

Loss functions, optimizers (SGD, Adam), weight initialization

Core Architectures

CNNs, RNNs, GNNs for vision, sequences & graphs

Advanced DL Concepts

Batch norm, dropout, residual connections, learning rate schedules

Course 3 – NLP & Foundation Models

Aa

Text Representation

Tokenization, stemming, embeddings (Word2Vec, GloVe, BERT)



Language Modeling

RNNs, LSTMs, GRUs, Transformer-based architectures



Attention & Transformers

Self-attention mechanism, encoder-decoder design



Foundation Models

GPT, T5, BERT — capabilities, limitations, fine-tuning



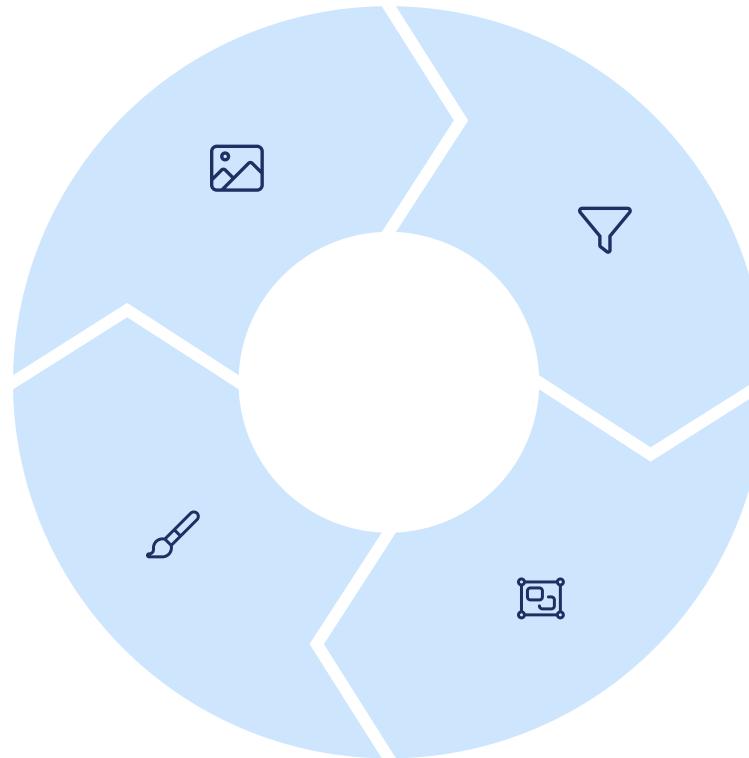
BONUS: Large Language Models

Instruction tuning, alignment techniques, emerging capabilities

Course 4 – Computer Vision Fundamentals

Image Representation
Pixels, channels, color spaces, image augmentation

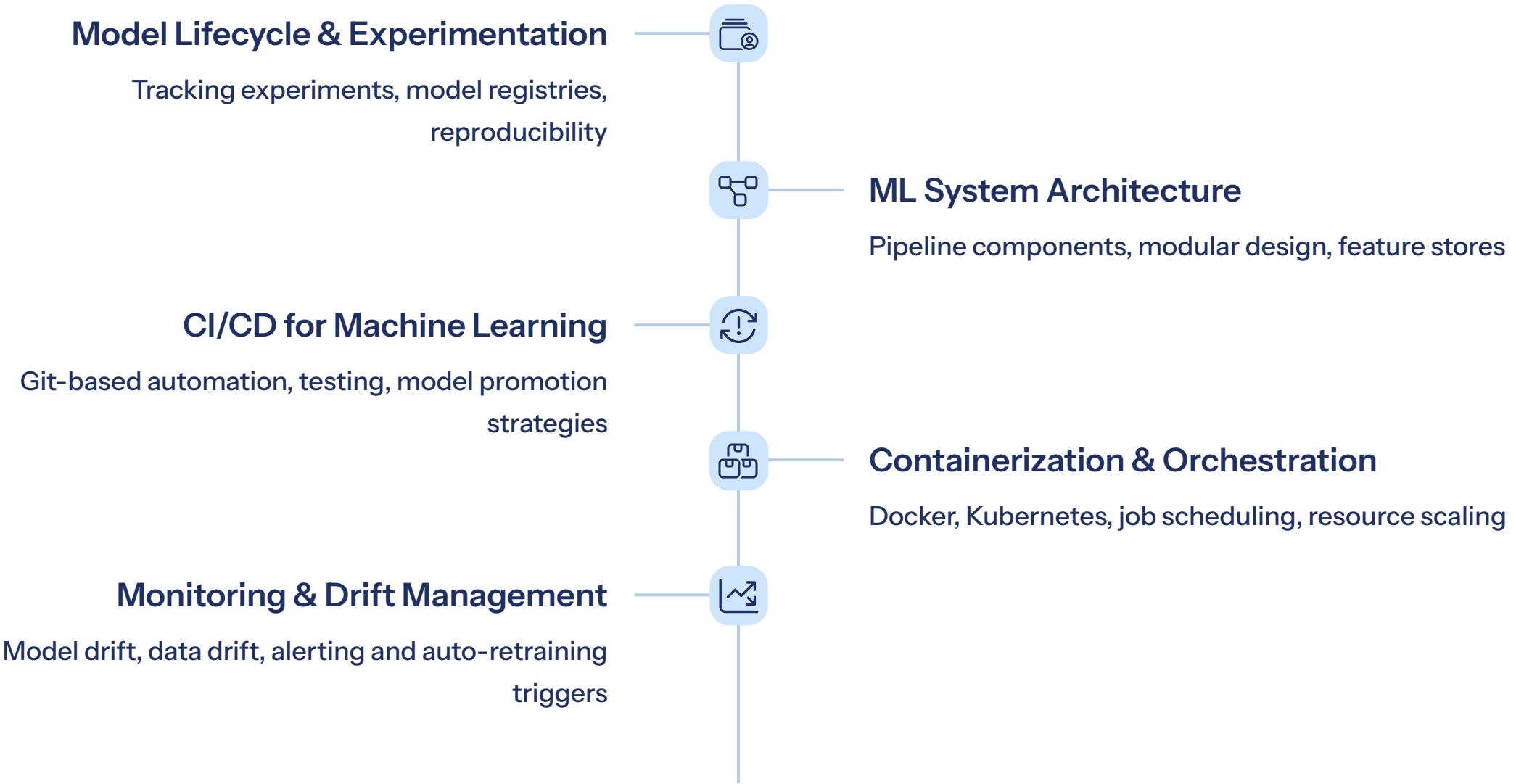
Generative Models
GANs, Stable Diffusion, use in image synthesis



CNNs
Filters, pooling, strides, receptive fields, architecture design

Detection & Segmentation
Object detection (YOLO, SSD), segmentation (U-Net, Mask R-CNN)

Course 5 – MLOps & System Design Principles



Project-Based Learning Track



Course 1 – Building Production-Ready ML Systems



Data Exploration & Feature Engineering

Clean and transform real-world datasets to extract meaningful patterns

Model Development Using Industry Tools

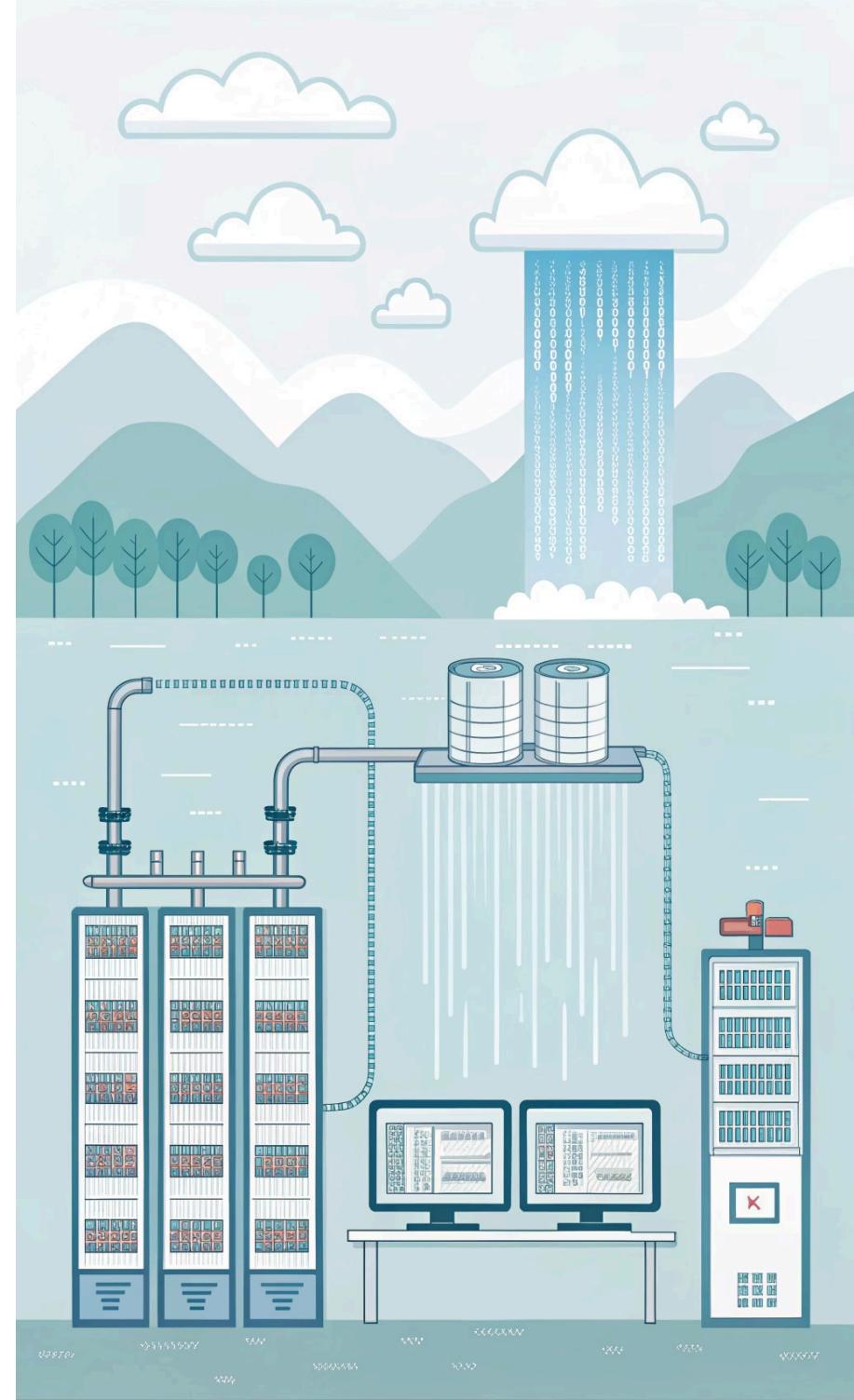
scikit-learn, XGBoost with proper validation workflows

Scalable Processing with Apache Spark

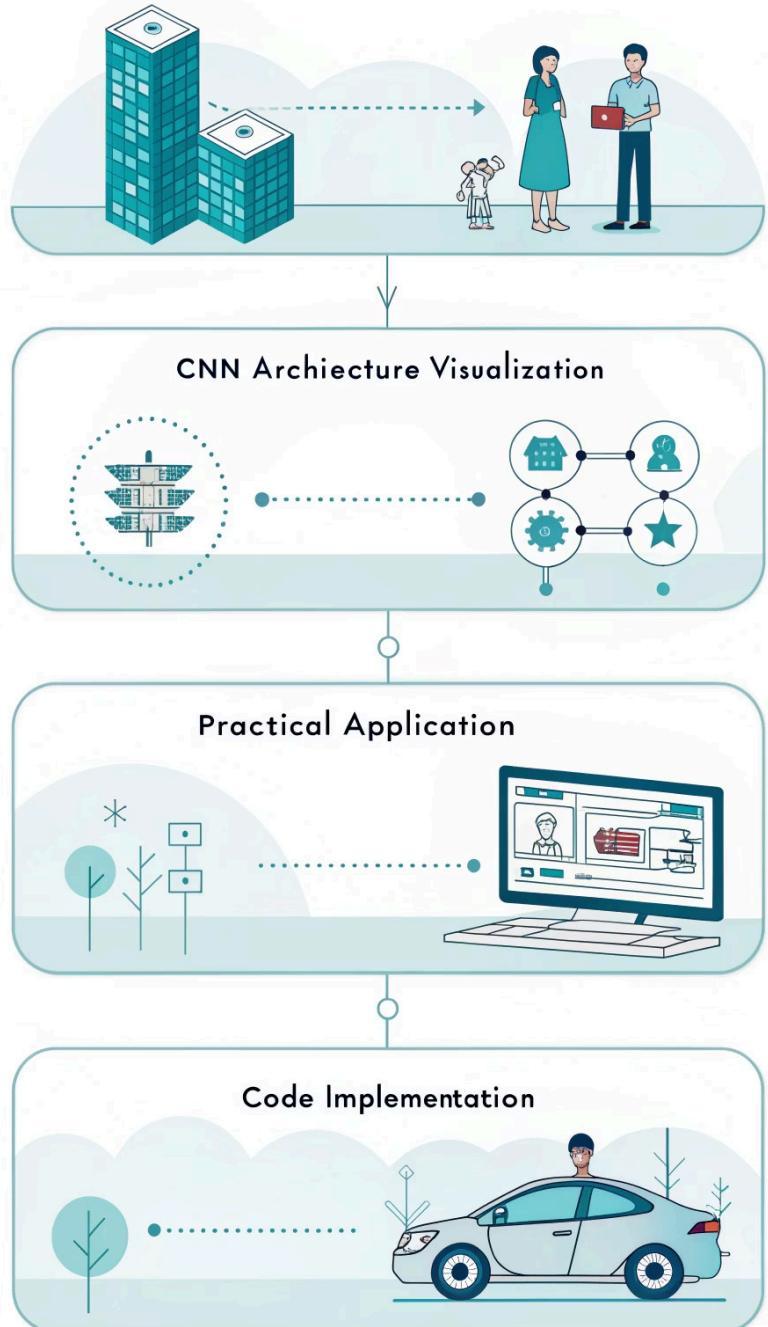
Process large datasets across distributed clusters

Streaming with Apache Kafka

Real-time data pipelines for high-throughput systems



Data Collection



Course 2 – Deep Learning in Action

Foundations with PyTorch/TensorFlow

Train, validate, and evaluate deep neural nets

CNNs and Transfer Learning

Build image classifiers with ResNet, EfficientNet

NLP Pipelines

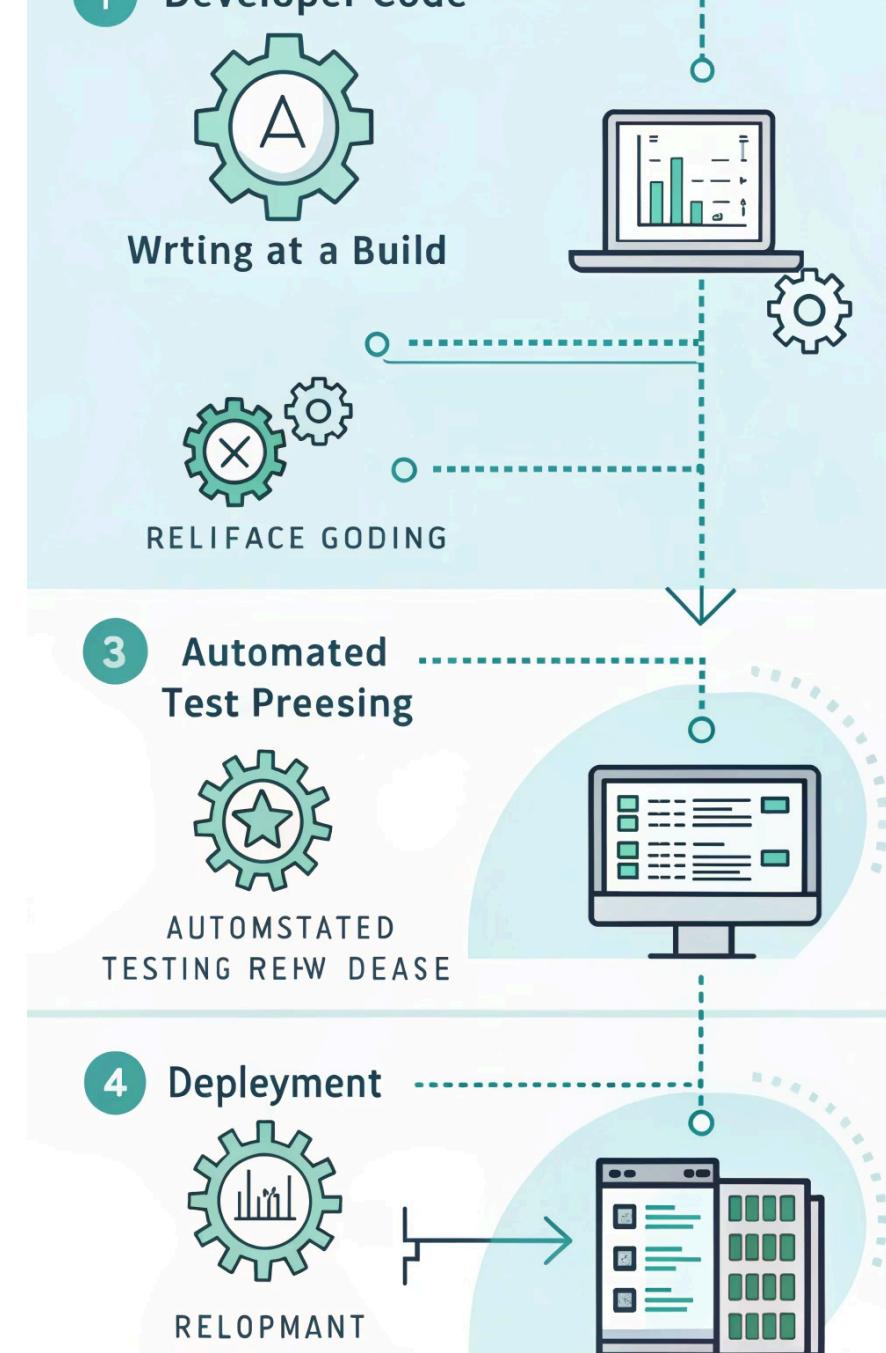
Use Transformers for text tasks (classification, summarization)

Model Training & Monitoring

Scale experiments with tracking & logs in SageMaker

Course 3 – MLOps – From Notebook to Production

- 1 Workflow Orchestration
MLflow + Airflow for managing pipelines and experiments
- 2 Containerization & Versioning
Use Docker + DVC to package and track models
- 3 Automating Training & Deployment
CI/CD with GitHub Actions
- 4 Kubernetes-Based Orchestration
Scale models with HPA, load balancing, rollouts



Course 4 — LLMOps & RAG



Prompt Engineering

Effective prompts with OpenAI, Gemini, HF



Embeddings + Vector Databases

Use Qdrant, MongoDB Atlas for contextual retrieval



RAG Architecture

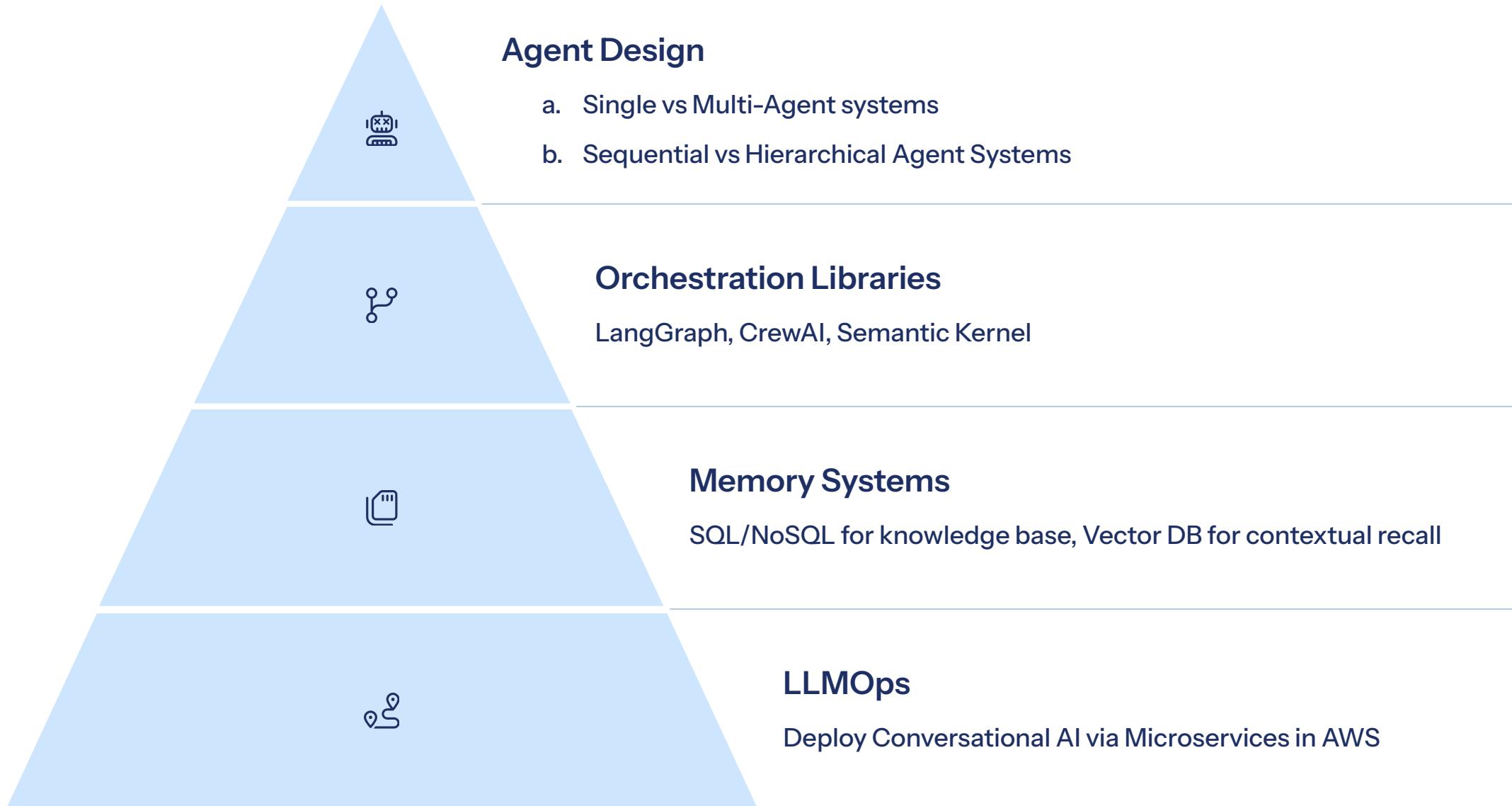
Retrieve relevant info and generate responses with LLMs



Fine-Tuning & Adaptation

Use PEFT strategies to personalize models

Course 5 — AI Agents & Multi-Agent Workflows



Hackathons & Community

Building skills through collaboration and real-world challenges.



Group Hackathons After Each Course



Team-Based Challenges

Apply course knowledge to real-world mini-projects



Mentor Feedback

Get guidance from industry experts



Rewards & Recognition

Exclusive rewards, mentorship access, and resume badges

Free Monthly Physical Workshops & Hackathons



Join us in Colombo for hands-on workshops, hackathons, networking, and career development opportunities.

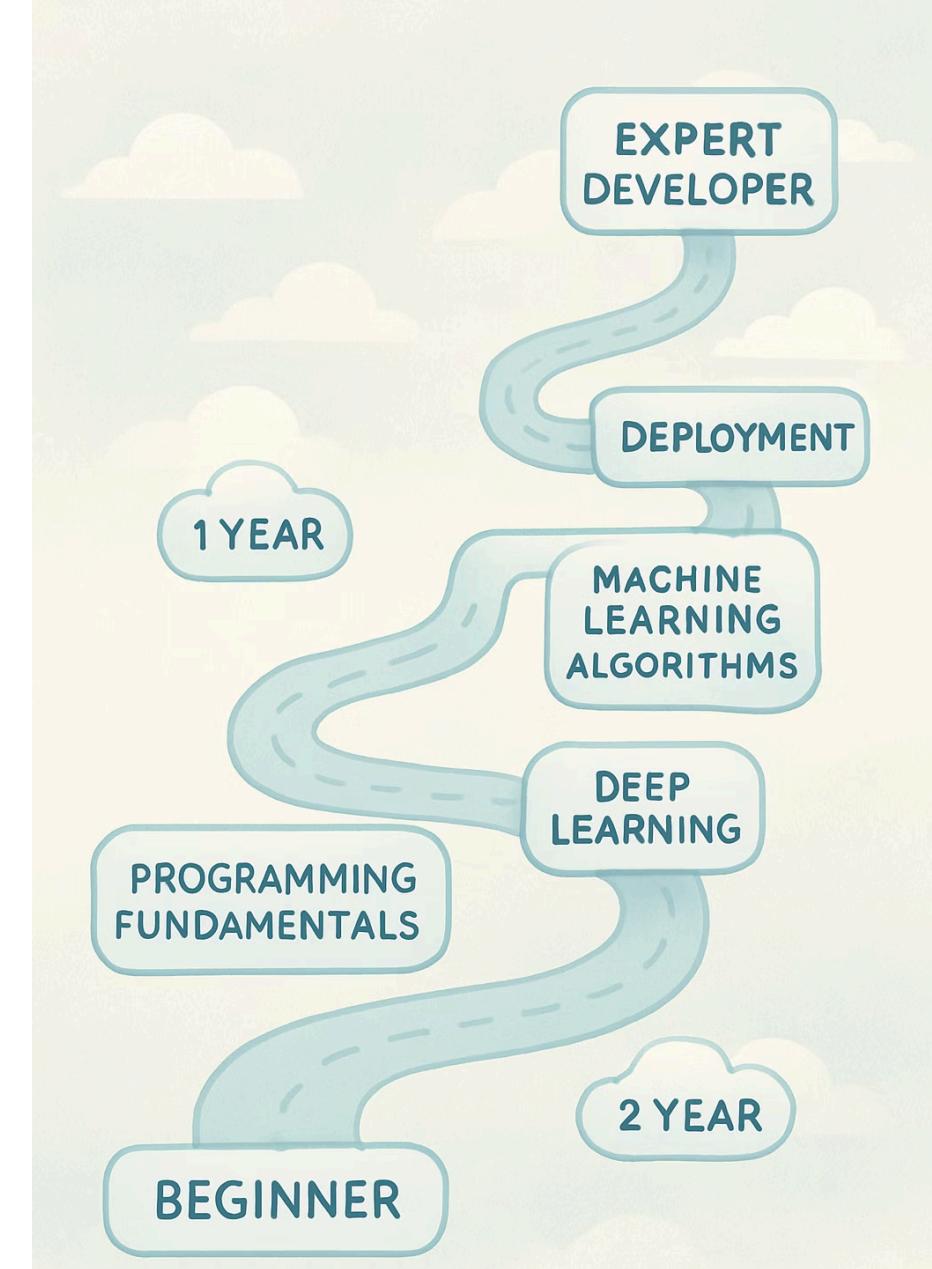


Roadmap & Growth

Your journey from learning to professional success.

Zuu Crew Roadmap

-  **Launching AI Bootcamps**
July 05
-  **Early Bird Registration**
June 25
-  **Project Showcases**
Live demonstrations of student work
-  **Internship Referrals**
Connecting students with industry opportunities





Career Pathways



Learner

Building foundational knowledge

Builder

Creating portfolio projects

Engineer

Professional implementation



Be a Founding Member



First 100 OG Learners

Join our founding cohort



Priority Access

First access to bootcamps, mentors, and events



Exclusive Benefits

Verified badge, Discounts, mentorship sessions

You're Not Too Early — You're Just in Time

"The builders of tomorrow aren't waiting for a syllabus — they're already building."



Q&A

Ask your questions — courses, careers, agents, tech stacks, whatever helps you grow.

