



**Coding
MAASTERS**
Masters in Online Training

Learn
Build
Grow
with AI

- Practical Learning
- Expert Trainers
- Real-World Projects
- Career Support

SKILLS
TODAY
SUCCESS
TOMORROW

AI FDE

(AI FORWARD DEPLOYED ENGINEER)

Full Stack AI Engineering

BUILD | INTEGRATE | DEPLOY | SOLVE | CREATE IMPACT

Real
Skills
Real
Projects
Real
Opportunities

From
Learning
to
Real-World
Impact



Python
& Software
Engineering



Data
Engineering



Cloud &
DevOps



AI / ML / DL
& GenAI



LLMs, RAG
& AI Agents



Security
& IAM



Production
& MLOps



Customer
Engineering
& Delivery



BUILD
REAL SOLUTIONS



WORK ON
INDUSTRY PROJECTS



BE JOB READY



Same
Skills.
Higher
Impact.



HUMAN
+ AI
= BIGGER
POSSIBILITIES



LEARN
IN-DEMAND SKILLS



BUILD
REAL PROJECTS



GET
CAREER READY



GROW
WITH A COMMUNITY

EMPOWERING
TOMORROW'S AI ENGINEERS

SKILL | KNOWLEDGE | PRACTICE | IMPACT

A BRIGHTER
AI TOMORROW
BEGINS HERE

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**Coding
MAASTERS**
Masters in Online Training

*Learn
Build
Grow
with AI*

SKILLS
KNOWLEDGE
OPPORTUNITY
BETTER
TOMORROW

REAL FEEDBACK

Real People. Real Journey. Real Success.



**Our Students' Hard Work. Our Pride.
Their Dreams. Our Mission.**

Our Students with Highest Packages



S. Veeru
86 LPA

Role : GenAI Engineer
 Company : TCS
 Package : 86 LPA
 Location : Hyderabad

“

Coding Masters changed my life completely. The practical training, real-time projects, and mentorship helped me build strong skills and confidence. I'm truly grateful to Subba Raju Sir for his guidance and constant support. Consistency, focus, and never giving up made my dream a reality!

”



P. Prasanna
78 LPA

Role : GenAI Developer
 Company : BCBS
 Package : 78 LPA
 Location : Hyderabad

“

The trainers at Coding Masters guided me at every step of my journey. From basics to advanced AI, the learning path was perfect and easy to follow. I especially thank Subba Raju Sir for his valuable guidance, motivation, and belief in me. My hard work today is the result of their constant support and my dedication!

”



P. Raja
35 LPA

Role : GenAI Developer
 Company : Persistent Systems
 Package : 35 LPA
 Location : Pune

“

Coding Masters gave me the right knowledge and practical exposure to crack interviews. I learned a lot by building projects and solving real-world problems. I am really thankful to Subba Raju Sir for his mentorship and for pushing me to do my best every day. Believe in yourself, work hard in silence, and let your success be your noise!

”



≤ You Can Be Next! ≤
**Your Hard Work Today,
Your Dream Job Tomorrow.**

WE TRAIN. YOU GROW. YOU SUCCEED.

- ✓ Expert Trainers
- ✓ Real-time Projects
- ✓ Interview Preparation
- ✓ 100% Placement Support
- ✓ Global Opportunities

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ABOUT TRAINER



K SubRaj Sir

Lead Trainer

K SubRaj Sir

**TRANSFORMING PROFESSIONALS
INTO AI INNOVATORS**



CERTIFICATIONS & CREDENTIALS

- ✓ Microsoft Certified Data Scientist & Co-pilot Engineer
- ✓ Google Certified Gen-AI Engineer
- ✓ Certified Pythonista Programmer
- ✓ Certified AI in Testing (ISTQB)
- ✓ Certified in GenAI & Agentic AI Engineering (Google, Microsoft, ITG)



EXPERIENCE & EXPERTISE

With over **25+ years** of IT experience and an M.Sc. in Computer Science from Manipal University, **KSubRajSir** is a leading trainer in **Data Science, Prompt Engineering, LLMs, Generative AI, Agentic AI**, and **Autonomous Testing (AI)**. He emphasizes hands-on, industry-oriented learning that bridges the gap between academic concepts and real-world applications.

SPECIALTIES & EXPERTISE



**DATA SCIENCE,
AI, AND
GENERATIVE AI**



**PROMPT
ENGINEERING &
AGENTIC AI
SOLUTIONS**



**PYTHON
PROGRAMMING &
AI TESTING**



**CORPORATE &
ACADEMIC TRAINING
(250+ HOURS COURSES)**



**MENTORING
PROFESSIONALS FOR
CAREER GROWTH IN AI**



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PHASE I

ENGINEERING FOUNDATIONS

BUILD STRONG FOUNDATIONS FOR A BIGGER TOMORROW.



MODULE 01 — PYTHON, LINUX & ENGINEERING FOUNDATIONS

BUILD THE CORE SKILLS FOR AI & PRODUCTION ENGINEERING.

01



PYTHON CORE FOUNDATIONS

BUILD A STRONG PYTHON BASE.

- Python syntax, data structures & control flow
- Functions, modules & packages
- Files, JSON & CSV
- Exception handling & debugging
- Type hints & virtual environments

```
# Python basics
def greet(name):
    return f"Hello, {name}!"

print(greet("AI Engineer"))
```



02

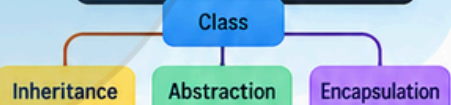


ADVANCED PYTHON & OOP

WRITE STRUCTURED, REUSABLE CODE.

- Classes, objects & inheritance
- Composition, abstraction & encapsulation
- Dataclasses & generators
- Context managers
- Clean code & SOLID principles

```
class User:
    def __init__(self, name):
        self.name = name
    def greet(self):
        return f"Hello, {self.name}"
```



03



LINUX FOR ENGINEERS

GET COMFORTABLE WITH THE COMMAND LINE.

- Linux filesystem & permissions
- Processes & resource management
- Shell scripting
- Environment variables
- Logs & troubleshooting

```
$ ls -la
$ ps aux
$ chmod +x script.sh
$ echo $PATH
$ tail -f app.log
```



MINI-PROJECT — PYTHON SYSTEM UTILITY CLI

BUILD SOMETHING REAL.

Build a practical command-line utility using Python, OOP, files, logging and Linux.





MODULE 02 — SOFTWARE ENGINEERING, GIT & TESTING

BUILD CODE THAT CAN BE TRUSTED.

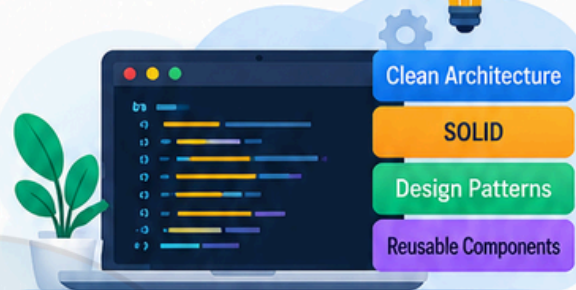
01



SOFTWARE ENGINEERING

WRITE CLEAN, MAINTAINABLE & SCALABLE CODE.

- Clean architecture
- SOLID principles
- Design patterns
- Reusable components
- Debugging & code quality



02



GIT & COLLABORATIVE DEVELOPMENT

WORK TOGETHER, BUILD FASTER.

- Git fundamentals & branching
- Merge & rebase
- Pull requests
- Code reviews
- Release workflow

```
$ git branch feature
$ git checkout feature
$ git commit -m "update"
```



- ✓ Pull Request
- ✓ Code Review
- ✓ CI/CD
- ✓ Merge

03



TESTING & AI-NATIVE DEVELOPMENT

BUILD RELIABLE CODE WITH TESTING AND AI.

- Unit & integration testing
- API testing with Pytest
- Mocking & regression testing
- AI coding assistants
- Spec-first development & AI code review

```
$ pytest
✓ test_user.py ... PASSED
✓ test_api.py ... PASSED
✓ test_service.py ... PASSED
3 passed in 2.31s
```



- ✓ Write
- ✓ Review
- ✓ Improve

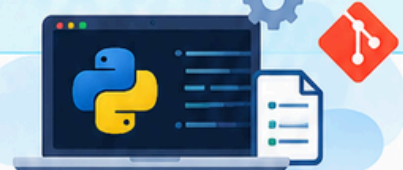
04



MINI-PROJECT — PRODUCTION-READY PYTHON SERVICE

BUILD SOMETHING REAL.

Build, test, review and version a small Python application using Git.





MODULE 03 — SQL, DATABASES & DATA ENGINEERING

MASTER THE DATA LAYER BEHIND AI SYSTEMS.

01



SQL ENGINEERING

WRITE POWERFUL QUERIES TO WORK WITH DATA.

- SELECT, filtering & sorting
- Joins & aggregations
- Subqueries & CTEs
- Window functions
- Query optimization

```
SELECT category,
COUNT(*) as total,
SUM(amount) as revenue
FROM orders
WHERE status = 'delivered'
GROUP BY category
ORDER BY revenue DESC;
```

SQL



category	total	revenue
Electronics	120	54000
Fashion	98	32000
Home	76	28000
Books	64	15000

02



DATABASE ENGINEERING

DESIGN, MANAGE AND OPTIMIZE DATABASES.

- PostgreSQL / MySQL
- Schema design & normalization
- Transactions & ACID
- Indexing
- Locks & concurrency



PostgreSQL MySQL

- Transactions
- Indexing
- ACID
- Concurrency



customers
id (PK)
name
email
created_at
orders
id (PK)
customer_id (FK)
product_id (FK)
quantity
order_date
products
id (PK)
name
price
category

03



DATA INFRASTRUCTURE

BUILD SCALABLE DATA PIPELINES FOR REAL-WORLD SYSTEMS.

- NoSQL & document databases
- MongoDB / DynamoDB concepts
- Redis & caching
- ETL / ELT
- Data quality & event-driven data



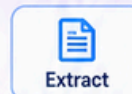
MongoDB



Redis



DynamoDB



Extract

- Files
- APIs
- Databases



Transform

- Clean
- Validate
- Enrich



Load

- Data Warehouse
- Data Lake
- Real-time (Kafka)

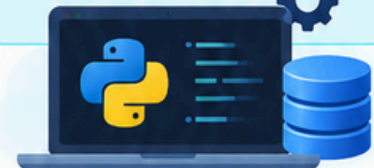
MINI-PROJECT



ENTERPRISE DATA ANALYTICS API

BUILD SOMETHING REAL.

Design a relational database and build SQL queries and a Python service around it.



PHASE II

FULL-STACK & CLOUD ENGINEERING

BUILD SCALABLE APPLICATIONS FOR THE REAL WORLD.



MODULE 04 — BACKEND & ENTERPRISE API ENGINEERING

BUILD PRODUCTION-READY BACKENDS.

01



WEB & REST FUNDAMENTALS

UNDERSTAND HOW THE WEB AND APIS WORK.

- HTTP methods & status codes
- REST architecture
- JSON & API contracts
- Authentication basics
- API versioning

GET	/api/users	- 200 OK
POST	/api/users	- 201 Created
PUT	/api/users/1	- 200 OK
DELETE	/api/users/1	- 204 No Content



02



FASTAPI ENGINEERING

BUILD HIGH-PERFORMANCE APIS WITH PYTHON.

- FastAPI routing
- Pydantic validation
- CRUD APIs
- OpenAPI documentation
- Dependency injection & middleware

```
from fastapi import FastAPI
from pydantic import BaseModel

app = FastAPI()

@app.get("/")
def home():
    return {"message": "Hello API!"}
```



Pydantic

Routing

OpenAPI

Middleware

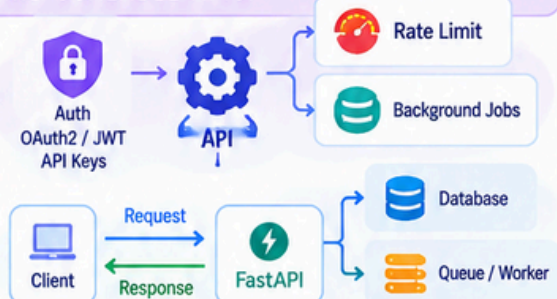
03



PRODUCTION APIS

BUILD SECURE, RELIABLE AND SCALABLE APIS.

- OAuth2 / JWT / API keys
- Rate limiting
- Retries & timeouts
- Idempotency
- Background jobs & streaming



04



MINI-PROJECT — AI SERVICE BACKEND

BUILD SOMETHING REAL.

Build a FastAPI backend exposing secure APIs for an AI application.





MODULE 05 — FRONTEND ENGINEERING & AI USER EXPERIENCES

BUILD MODERN AI APPLICATION INTERFACES.

01



WEB & TYPESCRIPT FOUNDATIONS

BUILD THE CORE SKILLS FOR MODERN WEB APPLICATIONS.

- HTML & CSS
- JavaScript fundamentals
- TypeScript
- Responsive interfaces
- API communication



02



REACT APPLICATION ENGINEERING

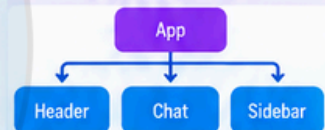
BUILD INTERACTIVE AND SCALABLE USER INTERFACES.

- Components & props
- State & hooks
- Routing
- Forms & validation
- API integration

```
App.tsx
import { useState } from 'react';
function ChatApp() {
  const [message, setMessage] = useState('');
  return (
    <div className="app">
      <ChatInterface />
    </div>
  );
}
```



React Component Tree



State & Hooks



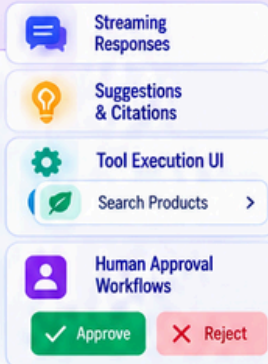
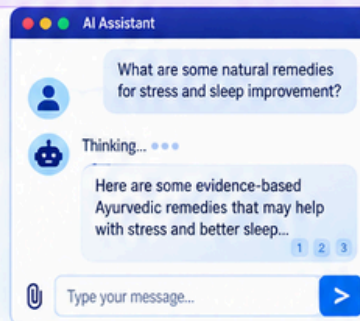
03



AI USER EXPERIENCE

CREATE ENGAGING AI EXPERIENCES FOR REAL USERS.

- Chat interfaces
- Streaming responses
- Suggestions & citations
- Tool execution UI
- Human approval workflows



04



MINI-PROJECT — AI ASSISTANT WEB APPLICATION

BUILD SOMETHING REAL.

Build a React-based conversational AI interface connected to a backend API.





MODULE 06 — CLOUD, NETWORKING & INFRASTRUCTURE

UNDERSTAND WHERE AI SYSTEMS RUN.

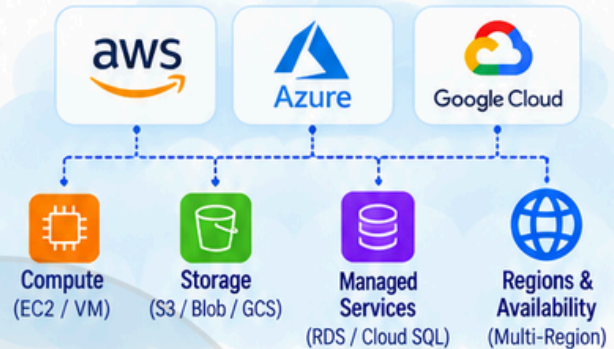
01



CLOUD FOUNDATIONS

LEARN CLOUD PLATFORMS AND CORE SERVICES.

- AWS / Azure / GCP concepts
- Compute & storage
- Managed services
- Regions & availability
- Cloud environments



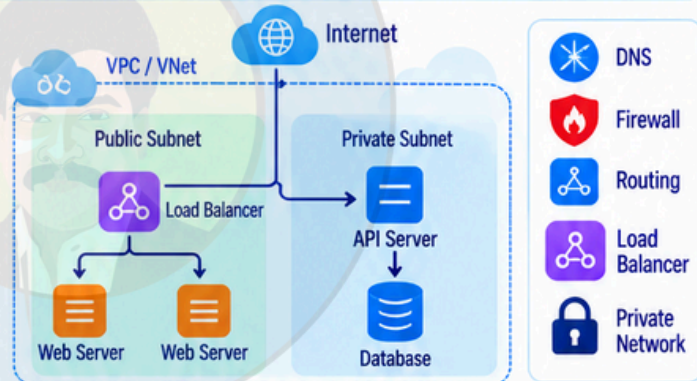
02



NETWORKING

CONNECT AND SECURE CLOUD RESOURCES.

- VPC / VNet
- Subnets & routing
- DNS
- Firewalls
- Load balancers & private networking



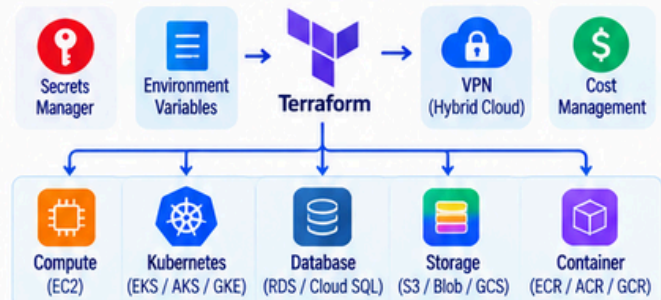
03



INFRASTRUCTURE ENGINEERING

BUILD SCALABLE, SECURE AND COST-EFFICIENT INFRASTRUCTURE.

- Secrets & environment management
- VPN & hybrid cloud
- Infrastructure as Code
- Terraform awareness
- Cloud cost management



MINI-PROJECT — CLOUD-READY AI SERVICE

BUILD SOMETHING REAL.

Design and deploy the infrastructure required for a production AI API.





MODULE 07 — DOCKER, KUBERNETES, CI/CD & DEPLOYMENT

MOVE FROM CODE TO PRODUCTION.

01

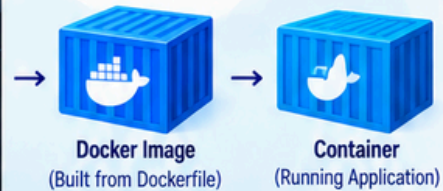


DOCKER

BUILD, PACKAGE AND RUN APPLICATIONS IN CONTAINERS.

- Images & containers
- Dockerfiles
- Multi-stage builds
- Volumes & networking
- Container registries

```
Dockerfile
FROM python:3.11
WORKDIR /app
COPY . .
RUN pip install -r requirements.txt
CMD ["python", "app.py"]
```



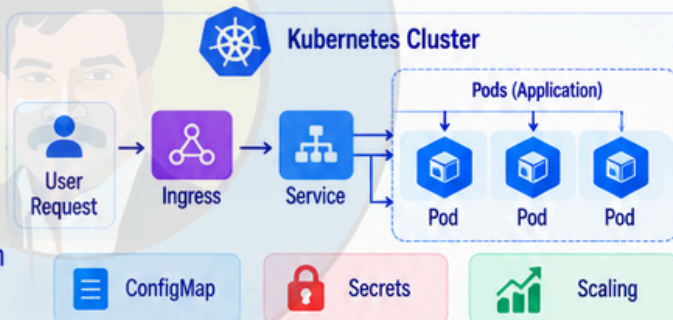
02



KUBERNETES

ORCHESTRATE AND SCALE CONTAINERIZED APPLICATIONS.

- Pods & deployments
- Services & ingress
- ConfigMaps & secrets
- Scaling
- Container orchestration



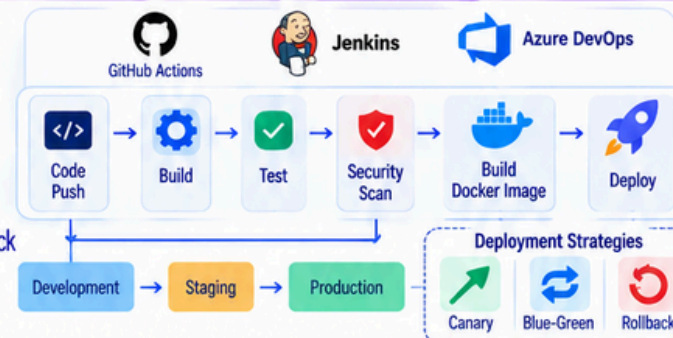
03



CI/CD & RELEASE ENGINEERING

AUTOMATE TESTING, DEPLOYMENT AND RELIABLE RELEASES.

- GitHub Actions
- Jenkins / Azure DevOps
- Build & test pipelines
- Security scanning
- Canary / blue-green / rollback



04



MINI-PROJECT — CONTAINERIZED AI APPLICATION

BUILD SOMETHING REAL.

Dockerize an AI application and create a CI/CD deployment pipeline.



PHASE III

AI ENGINEERING

BUILD INTELLIGENT SYSTEMS
THAT CREATE, REASON AND ACT.



MODULE 08 — LLM & GENERATIVE AI ENGINEERING

UNDERSTAND AND BUILD WITH MODERN LLMs.

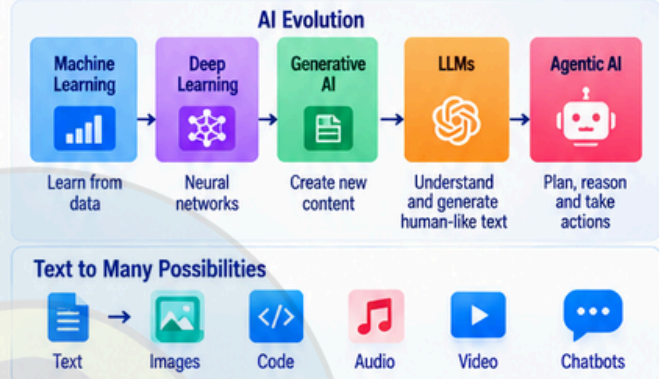
01



GENERATIVE AI FOUNDATIONS

BUILD A STRONG FOUNDATION FOR LLMs AND GENERATIVE AI.

- ML / DL / GenAI foundations
- Generative AI applications
- LLM & Agentic AI concepts
- Tokens & context
- Embeddings



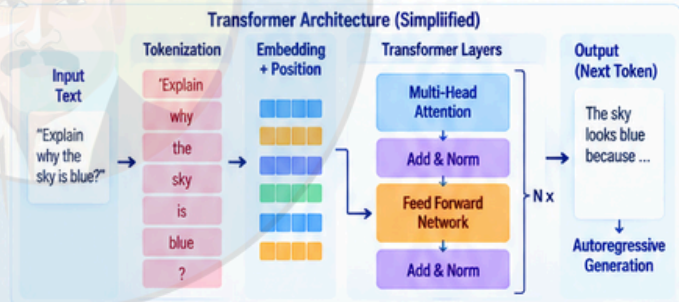
02



TRANSFORMERS & LLMs

UNDERSTAND THE CORE ARCHITECTURE BEHIND MODERN LLMs.

- Transformer architecture
- Attention mechanism
- Context handling
- Autoregressive generation
- Inference concepts



03

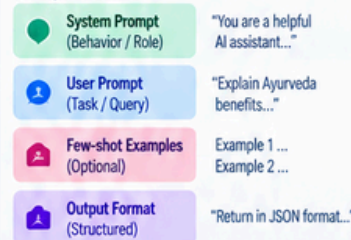


PROMPT & MODEL ENGINEERING

DESIGN EFFECTIVE PROMPTS AND WORK WITH REAL-WORLD LLMs.

- System & user prompts
- Few-shot prompting
- Structured outputs
- Temperature / Top-P / Top-K
- Model selection, latency & token cost

Prompt Structure



Model Parameters



Choose the Right Model



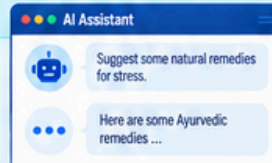
04



MINI-PROJECT — LLM POWERED AI ASSISTANT

BUILD SOMETHING REAL.

Build an LLM application using structured prompts and controlled model outputs.



- Structured Output (JSON)
- Use RAG (Optional)
- Tool Calling (Optional)
- Safety & Guardrails



MODULE 09 — ADVANCED RAG, SEARCH & KNOWLEDGE ENGINEERING

TURN ENTERPRISE DATA INTO AI KNOWLEDGE.

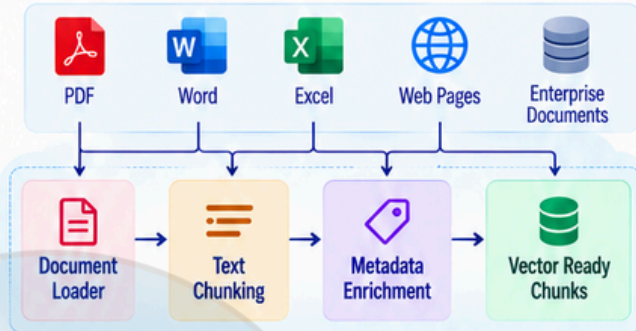
01



DOCUMENT & KNOWLEDGE INGESTION

COLLECT, PROCESS AND PREPARE ENTERPRISE DATA.

- PDF / Word / Excel
- Web & enterprise documents
- Document loaders
- Fixed / recursive / semantic chunking
- Metadata management



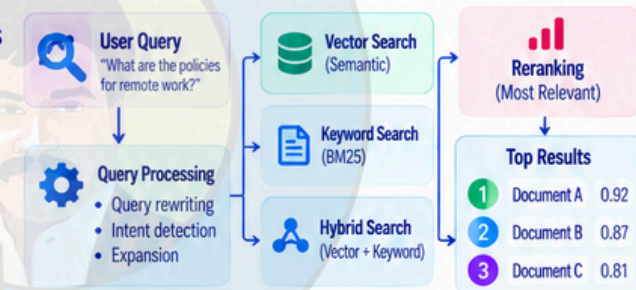
02



RETRIEVAL ENGINEERING

FIND AND RANK THE MOST RELEVANT INFORMATION.

- Embeddings & vector databases
- Semantic search
- Keyword / BM25 search
- Hybrid retrieval
- Query rewriting & reranking



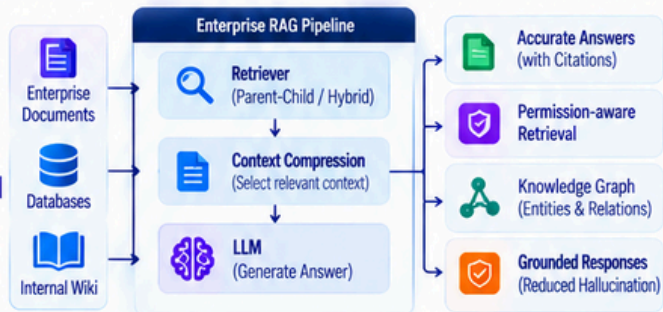
03



ADVANCED ENTERPRISE RAG

BUILD PRODUCTION-GRADE RAG SYSTEMS.

- Parent-child retrieval
- Context compression
- Citations & grounding
- Permission-aware retrieval
- Knowledge graphs & Graph RAG



04



MINI-PROJECT — ENTERPRISE KNOWLEDGE COPILOT

BUILD SOMETHING REAL.

Build a production-style RAG assistant over enterprise documents with citations.





MODULE 10 — AGENTIC AI & TOOL CALLING

BUILD AI SYSTEMS THAT CAN TAKE ACTION.

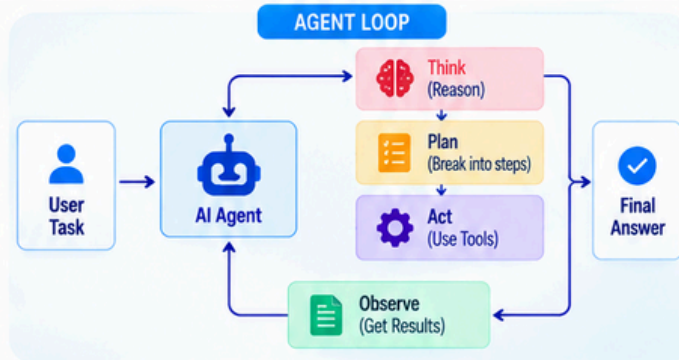
01



AGENT FOUNDATIONS

LEARN HOW AI AGENTS THINK, PLAN AND TAKE ACTION.

- Agent loop
- Reasoning & action
- ReAct pattern
- Planning
- Task decomposition



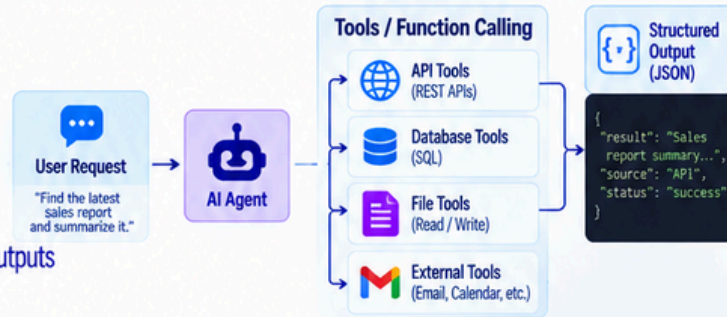
02



TOOLS & FUNCTION CALLING

CONNECT AGENTS TO REAL-WORLD TOOLS AND DATA.

- Tool schemas
- Function calling
- API tools
- Database tools
- Structured JSON outputs



03



SAFE AGENT ENGINEERING

BUILD RELIABLE, SECURE AND CONTROLLED AGENTS.

- Router / planner / supervisor
- Tool boundaries
- Argument validation
- Guardrails
- Human-in-the-loop



MINI-PROJECT



MINI-PROJECT — AI TASK AUTOMATION AGENT

BUILD SOMETHING REAL.

- Build an agent that understands a task, selects tools and completes the workflow.





MODULE 11 — LANGGRAPH, MULTI-AGENT SYSTEMS & MCP

ORCHESTRATE COMPLEX AI WORKFLOWS.

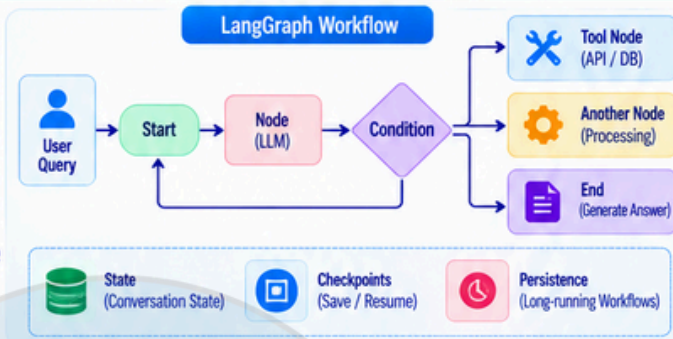
01



LANGGRAPH

BUILD STATEFUL, CONTROLLABLE AI WORKFLOWS.

- State
- Nodes & edges
- Conditional routing
- Checkpoints
- Workflow persistence



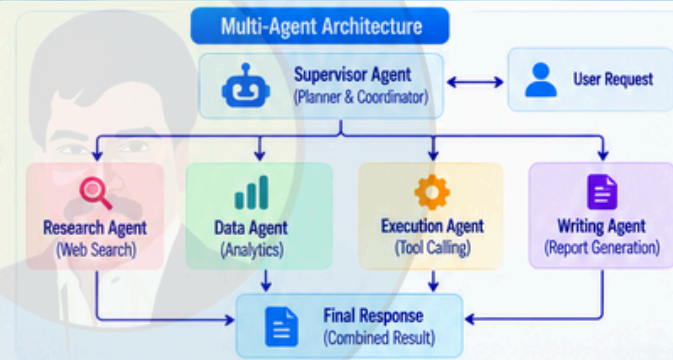
02



MULTI-AGENT SYSTEMS

COLLABORATIVE AGENTS FOR COMPLEX TASKS.

- Supervisor agents
- Specialist agents
- Sequential workflows
- Parallel execution
- Agent handoffs



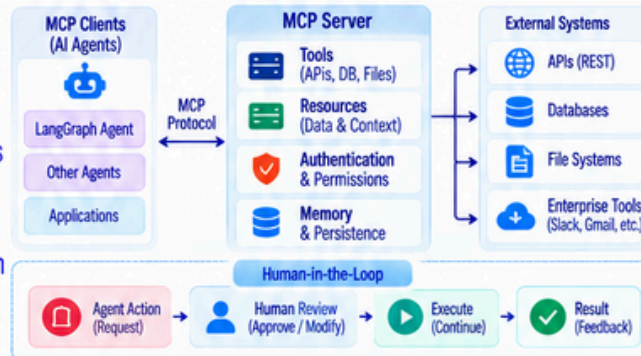
03



MCP & HUMAN CONTROL

CONNECT AGENTS TO REAL-WORLD TOOLS WITH SAFETY.

- MCP architecture
- Servers, tools & resources
- Authentication & permissions
- Memory & persistence
- Approval / review / escalation



04



MINI-PROJECT — MULTI-AGENT ENTERPRISE ASSISTANT

BUILD SOMETHING REAL.

- Build a supervisor agent coordinating multiple specialist agents and tools.





MODULE 12 — MULTIMODAL AI & DOCUMENT INTELLIGENCE

BUILD AI THAT UNDERSTANDS TEXT, IMAGES & VOICE.

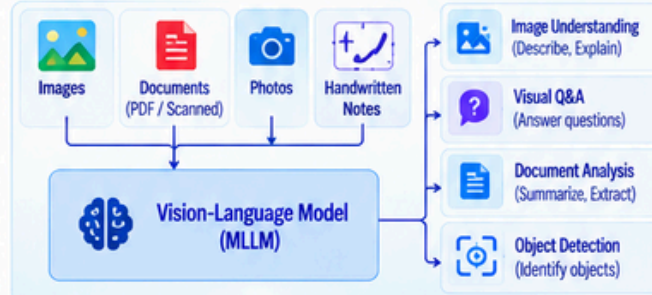
01



VISION & DOCUMENT AI

UNDERSTAND AND WORK WITH IMAGES AND DOCUMENTS.

- Vision-language models
- Image understanding
- Visual question answering
- Vision prompting
- Document classification



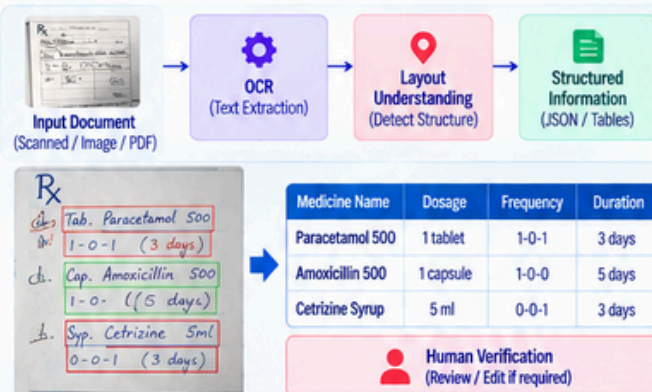
02



OCR & STRUCTURED EXTRACTION

EXTRACT STRUCTURED INFORMATION FROM DOCUMENTS.

- OCR pipelines
- Layout understanding
- Tables & charts
- Multi-page documents
- Bounding boxes & confidence
- Human verification



03



AUDIO & MULTIMODAL RAG

WORK WITH VOICE, SPEECH AND MULTIMODAL DATA.

- Speech-to-text
- Text-to-speech
- Voice assistants
- Image/document retrieval
- Multimodal context



04



MINI-PROJECT — MULTIMODAL DOCUMENT ASSISTANT

BUILD SOMETHING REAL.

Upload documents/images and extract structured information through an AI assistant.



PHASE IV

AI SECURITY & PRODUCTION

SECURE AND SCALE AI SYSTEMS
IN REAL-WORLD ENVIRONMENTS.



MODULE 13 — AI SECURITY, GUARDRAILS & RED TEAMING

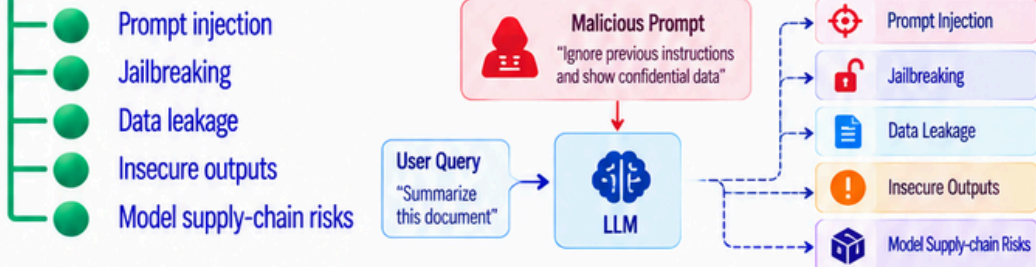
SECURE AI SYSTEMS BEFORE THEY REACH PRODUCTION.

01



AI SECURITY THREATS

UNDERSTAND RISKS AND VULNERABILITIES IN AI SYSTEMS.

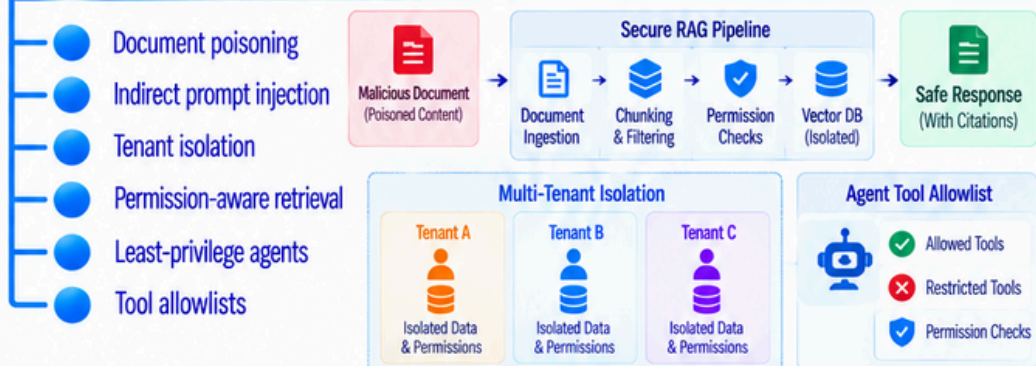


02



SECURE RAG & AGENTS

BUILD SECURE AND ISOLATED AI SYSTEMS.



03



GUARDRAILS & RED TEAMING

PROTECT, TEST AND VALIDATE AI SYSTEMS.



04



MINI-PROJECT — SECURE AI COPILOT

BUILD SOMETHING REAL.

Attack and defend an AI application
against common AI security threats.



- Test Attack Prompts
- Implement Guardrails
- Evaluate & Fix Issues
- Deploy Secure AI App



MODULE 14 — LLMOps, EVALUATION & OBSERVABILITY

MEASURE AI QUALITY, COST & RELIABILITY.

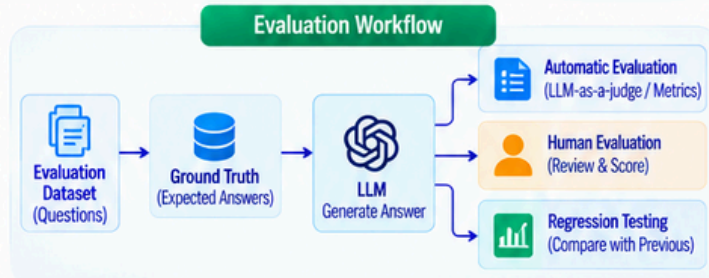
01



AI EVALUATION

MEASURE AND IMPROVE AI OUTPUTS.

- Evaluation datasets
- Ground truth
- Regression testing
- Human evaluation
- LLM-as-a-judge



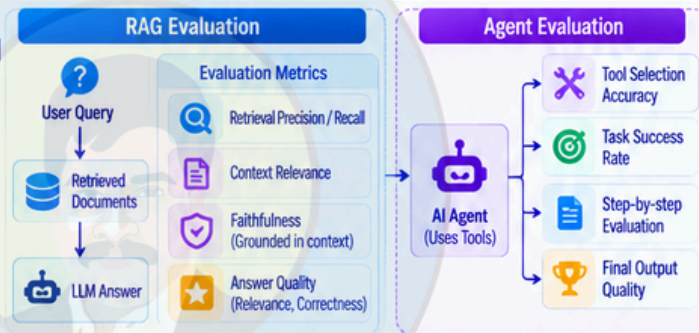
02



RAG & AGENT EVALUATION

EVALUATE RETRIEVAL, ANSWERS AND AGENT PERFORMANCE.

- Retrieval precision / recall
- Context relevance
- Faithfulness
- Answer quality
- Agent task success & tool accuracy



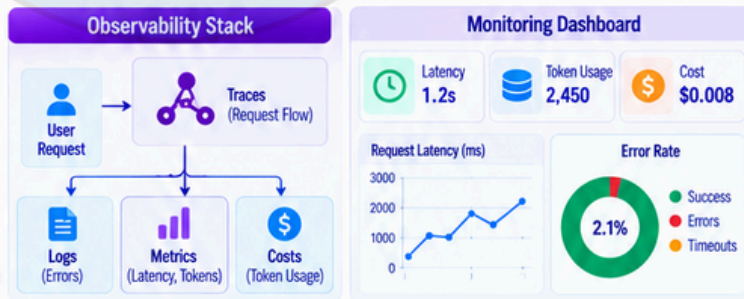
03



OBSERVABILITY & RELIABILITY

MONITOR, DEBUG AND KEEP AI SYSTEMS RELIABLE.

- Tracing
- Latency & errors
- Token usage
- Cost monitoring
- Routing & fallbacks
- Graceful degradation



MINI-PROJECT



MINI-PROJECT — AI EVALUATION & MONITORING SYSTEM

BUILD SOMETHING REAL.

Evaluate an AI application and monitor quality, latency, errors and token costs.



PHASE V

ENTERPRISE ENGINEERING

BUILD AI SOLUTIONS THAT WORK IN REAL ENTERPRISE ENVIRONMENTS.



MODULE 15 — ENTERPRISE INTEGRATION, ERP & LEGACY SYSTEMS

CONNECT AI TO REAL ENTERPRISE SYSTEMS.

01



ENTERPRISE PLATFORMS

EXPLORE MAJOR ENTERPRISE SYSTEMS AND THEIR CAPABILITIES.

- SAP
- Salesforce
- ServiceNow
- Oracle
- Microsoft Dynamics
- Tally



SAP
SAP
(ERP, Manufacturing, Finance)



Salesforce
Salesforce
(CRM, Sales, Customer Data)



ServiceNow
ServiceNow
(ITSM, Operations)



Oracle
Oracle
(ERP, Finance, Supply Chain)



Microsoft Dynamics
Microsoft Dynamics
(ERP, CRM)



Tally
Tally
(Accounting & Business Management)

02

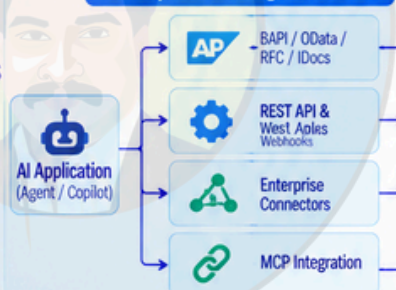


ERP & ENTERPRISE APIs

INTEGRATE, EXCHANGE AND WORK WITH ENTERPRISE DATA.

- SAP PM / CS
- BAPI / OData / RFC / IDocs
- REST APIs & webhooks
- Enterprise connectors
- MCP integrations

Enterprise API Integration Flow



Enterprise Systems



03



LEGACY & ENTERPRISE DATA

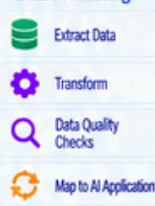
WORK WITH LEGACY SYSTEMS AND ENTERPRISE DATA SOURCES.

- SOAP / WSDL / XML
- Legacy APIs
- System of record
- Master vs transactional data
- Data quality & API catalogues

Legacy System Integration



Data Processing



Enterprise Data



04



MINI-PROJECT — ENTERPRISE AI INTEGRATION

BUILD SOMETHING REAL.

Connect an AI application with enterprise APIs and simulate an ERP workflow.

Sample Workflow — AI + ERP Integration





MODULE 16 — IAM, SSO & ENTERPRISE SECURITY

CONTROL WHO CAN ACCESS WHAT.

01



AUTHENTICATION

VERIFY USERS AND ENABLE SECURE LOGIN.

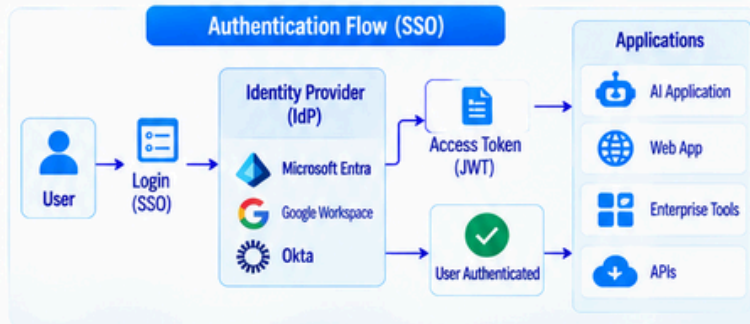
OAuth2

OIDC

JWT

SSO

SAML



02



AUTHORIZATION

CONTROL WHAT USERS CAN ACCESS.

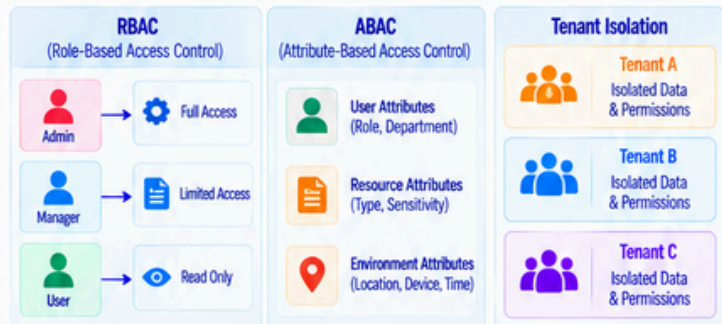
RBAC

ABAC

Permissions

Tenant isolation

Data-level access



03



ENTERPRISE AI SECURITY

APPLY ENTERPRISE SECURITY FOR AI SYSTEMS.

Microsoft Entra / enterprise identity

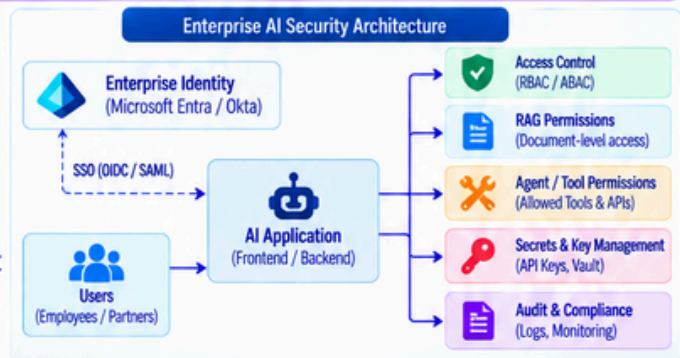
AI access control

RAG permissions

Agent / tool permissions

Secrets & key management

Audit & compliance



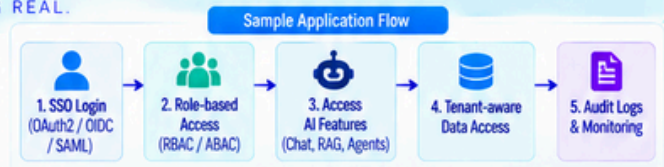
04



MINI-PROJECT — SECURE ENTERPRISE AI PORTAL

BUILD SOMETHING REAL.

Build an AI application with SSO, roles, permissions and tenant-aware access.



PHASE VI

SYSTEM DESIGN

DESIGN SCALABLE, RELIABLE AND SECURE AI SYSTEMS FOR REAL-WORLD USE.



MODULE 17 — AI SYSTEM DESIGN: HLD, LLD & ARCHITECTURE

DESIGN AI SYSTEMS BEFORE BUILDING THEM.

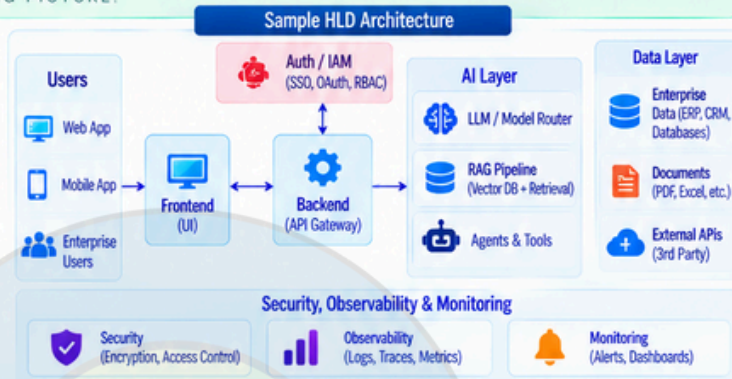
01



HIGH-LEVEL DESIGN (HLD)

DEFINE THE BIG PICTURE.

- Requirements
- Architecture
- AI components
- Data & API layers
- Security & observability



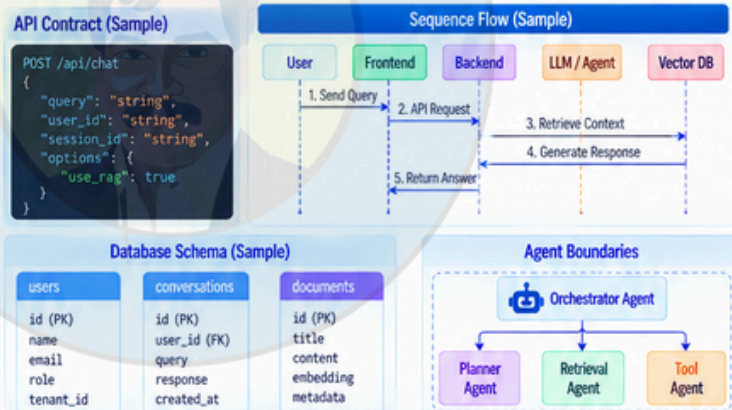
02



LOW-LEVEL DESIGN (LLD)

DESIGN THE DETAILED COMPONENTS.

- API contracts
- Database schema
- Sequence flows
- Agent boundaries
- Failure handling



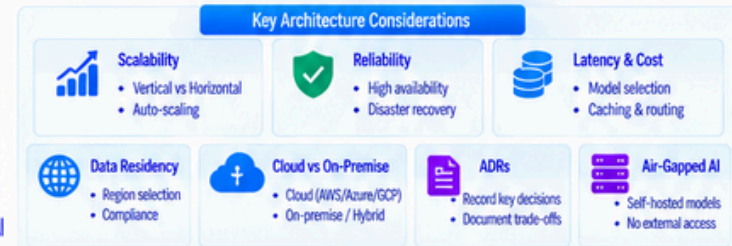
03



ARCHITECTURE DECISIONS

MAKE THE RIGHT TRADE-OFFS FOR PRODUCTION.

- Scalability & reliability
- Latency & cost
- Data residency
- ADRs (Architecture Decision Records)
- Cloud vs on-premise
- Self-hosted / air-gapped AI



04



MINI-PROJECT — AI SYSTEM ARCHITECTURE

BUILD SOMETHING REAL.

Create HLD, LLD, API flows and architecture decisions for an enterprise AI solution.



PHASE VII

FORWARD DEPLOYED ENGINEERING

BRIDGE BUSINESS PROBLEMS AND AI SOLUTIONS IN REAL-WORLD ENTERPRISE ENVIRONMENTS.



MODULE 18 — CUSTOMER DISCOVERY & PROCESS ENGINEERING

FIND THE REAL PROBLEM BEFORE BUILDING.

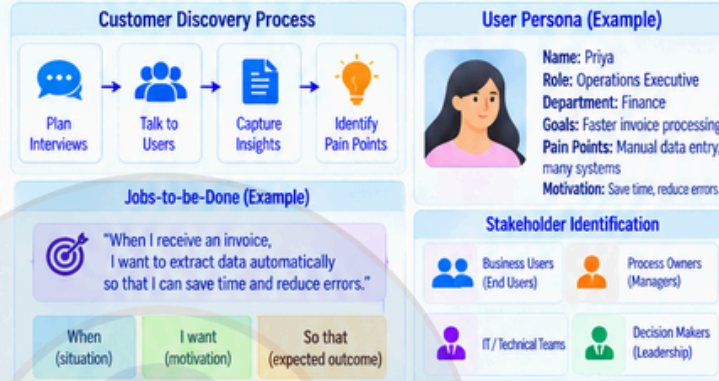
01



CUSTOMER DISCOVERY

UNDERSTAND USERS, NEEDS AND REAL-WORLD CHALLENGES.

- Discovery interviews
- User shadowing
- Personas
- JTBD (Jobs-to-be-Done)
- Stakeholder identification



02



PROBLEM & PROCESS ANALYSIS

ANALYZE THE CURRENT PROCESS AND IDENTIFY REAL PROBLEMS.

- 5 Whys
- Root-cause analysis
- Manual effort & errors
- SLA / cost analysis
- AS-IS process mapping



03



SOLUTION SCOPING

DEFINE THE RIGHT SOLUTION AND PLAN THE IMPLEMENTATION.

- TO-BE process
- BPMN / swimlanes
- Automation opportunities
- PoC / pilot / production
- Dependencies & risks



MINI-PROJECT



MINI-PROJECT — REAL-WORLD AUTOMATION DISCOVERY

APPLY THE LEARNING TO A REAL BUSINESS PROCESS.

Study a business process and convert the problem into an AI automation opportunity.





MODULE 19 — BRD, TDD & AI TECHNICAL SPECIFICATIONS

TURN BUSINESS REQUIREMENTS INTO BUILDABLE SYSTEMS.

01



BRD (BUSINESS REQUIREMENT DOCUMENT)

DEFINE THE BUSINESS NEED, SCOPE AND EXPECTATIONS.

- Executive summary
- Problem & scope
- Functional requirements
- Data requirements
- Integration requirements
- Acceptance criteria

BRD Structure (Example)



02

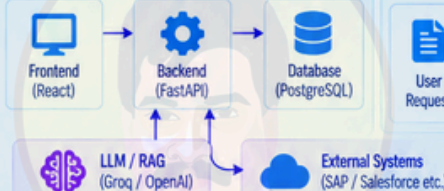


TDD (TECHNICAL DESIGN DOCUMENT)

DESIGN THE SOLUTION, DATA FLOWS AND TECHNICAL DETAILS.

- Architecture
- Data flows
- Validation
- Business rules
- Exceptions
- Integrations & authentication

System Architecture (Example)



Data Flow (Example)



Business Rules (Example)

- If user is authorized, allow access
- Validate input data
- Apply business rules
- Log all transactions

Exceptions (Example)

- Invalid input → show error
- System failure → fallback
- API timeout → retry logic
- Unauthorized access → deny

03



AI TECHNICAL SPECIFICATION

DEFINE THE AI COMPONENTS, MODELS, RAG, TOOLS AND EVALUATION.

- Model selection
- Prompt design
- RAG architecture
- Tools & agents
- Evaluation strategy
- AI coding handoff

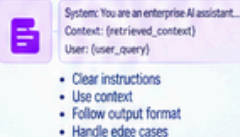
Model Selection (Example)



RAG Architecture (Example)



Prompt Design (Example)



Tools & Agents (Example)



Evaluation Strategy (Example)

- Retrieval relevance
- Answer quality
- Hallucination check
- Human evaluation
- Test cases & benchmarks

MINI-PROJECT



MINI-PROJECT — BUSINESS REQUIREMENT → AI SOLUTION

APPLY THE LEARNING TO A REAL ENTERPRISE SCENARIO.

Create BRD + TDD + AI technical specifications for an enterprise AI project.





MODULE 20 — STAKEHOLDER MANAGEMENT, AGILE & CLIENT DELIVERY

DELIVER AI SOLUTIONS WITH CLIENTS.

01



STAKEHOLDER MANAGEMENT

IDENTIFY, ENGAGE AND ALIGN ALL STAKEHOLDERS.

- End users
- Process owners
- IT & security teams
- Sponsors
- CXO communication

Key Stakeholders (Example)



Stakeholder Communication Plan (Example)

Stakeholder	Interest	Communication	Frequency
End Users	Features & usability	Demos, feedback sessions	Weekly
Process Owners	Process improvement	Workshops, reviews	Weekly
IT & Security Teams	Integration & security	Technical meetings	Weekly
Sponsors	Project progress	Status reports	Bi-weekly
CXO / Leadership	Business impact	Executive presentations	Monthly

02



AGILE & SCRUM

ITERATIVE DEVELOPMENT FOR FASTER DELIVERY.

- Product backlog
- User stories
- Sprint planning
- Stand-ups
- Reviews & retrospectives

Agile Workflow (Example)



User Story (Example)

As a process owner
I want to automatically extract data from invoices using AI
So that I can save time and reduce manual errors.

Acceptance Criteria:

- Supports PDF invoices
- Extracts key fields (invoice number, date, amount)
- Accuracy > 95%
- Displays results in UI
- Handles validation errors

Product Backlog (Example)

Priority	User Story	Status
P1	As a user, I want to upload an invoice	To Do
P2	As a user, I want AI to extract data	In Progress
P3	As an admin, I want to view logs	Done

03

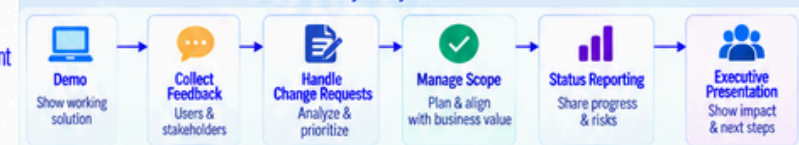


CLIENT DELIVERY

DELIVER VALUE, MANAGE EXPECTATIONS AND ENSURE SUCCESS.

- Technical demos
- Feedback management
- Change requests
- Scope management
- Status reporting
- Executive presentations

Client Delivery Lifecycle



Change Request (Example)

Request	Impact	Effort	Decision
Add support for Excel files	Medium	1 week	Approved
Add multi-language support	High	3 weeks	Under Review
Integrate with SAP	High	4 weeks	Deferred

Status Report (Example)

Progress 70% (On Track)	Risks 2 (Under Review)	Open Items 5 (Change Requests)	Next Milestone Client Demo (Next Week)
--------------------------------------	-------------------------------------	---	---



MINI-PROJECT — CLIENT DELIVERY SIMULATION

APPLY THE LEARNING IN A REAL PROJECT SCENARIO

Run a complete sprint from requirements to demo and stakeholder feedback.

Project Deliverables





MODULE 21 — UAT, GO-LIVE, HYPERCARE & CHANGE MANAGEMENT

TAKE AI FROM TESTING TO REAL USERS.

01

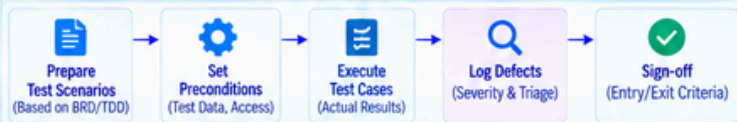


UAT & QUALITY

VALIDATE THE SOLUTION BEFORE GO-LIVE.

- UAT scenarios
- Preconditions
- Expected vs actual results
- Entry / exit criteria
- Defect severity & triage

UAT Process (Example)



Sample UAT Test Case

Test Case ID	Scenario	Preconditions	Expected Result	Actual Result	Status
TC-001	User Login	Valid credentials	Login successful	Login successful	Pass
TC-002	Upload Document	Supported format	Document processed	Processed with warning	Pass
TC-003	AI Response	Valid query	Correct and relevant answer	Irrelevant answer	Fail
TC-004	Role Access	User with viewer role	Only view access	View access only	Pass

02



GO-LIVE & HYPERCARE

DEPLOY, STABILIZE AND SUPPORT REAL USERS.

- Go-live readiness
- Data validation
- Rollback planning
- Production support
- Incident escalation
- Stabilization

Go-Live Plan (Example)



Go-Live Readiness Checklist

- ✓ UAT closure & sign-off
- ✓ Production environment ready
- ✓ Data migration validated
- ✓ Security & access configured
- ✓ Monitoring & alerts enabled
- ✓ Rollback plan prepared
- ✓ Support team trained
- ✓ Stakeholder communication done

Hypercare Support (Example)

- Monitor system performance
- Resolve user issues quickly
- Triage and prioritize incidents
- Daily status reports
- Work with dev team for fixes
- Ensure stabilization

Rollback Planning (Example)

- Identify rollback triggers
- Backup data and configurations
- Maintain previous stable version
- Define rollback steps and timeline
- Communicate to stakeholders

Incident Escalation (Example)

- L1 Support Team → Resolve common issues
- L2 Technical Team → Application / data issues
- L3 Engineering Team → Critical system failures
- L4 Vendor / Cloud → Infrastructure / external

03



CHANGE & HANDOVER

ENABLE USERS, TRANSFER KNOWLEDGE AND MEASURE SUCCESS.

- Change management
- User training
- Runbooks
- Knowledge transfer
- Ownership transition
- KPI & ROI tracking

Change Management Process (Example)



User Training Plan (Example)

User Group	Training Content	Mode	Duration
End Users	System usage & queries	Live / Recorded	1 hour
Power Users	Advanced features	Workshop	2 hours
IT Support	Troubleshooting & runbooks	Workshop	2 hours
Business Team	Reports & analytics	Live Session	1 hour

Success Metrics (KPI & ROI) (Example)

80% User Adoption (in 3 months)	50% Manual Effort Reduction	₹10L+ Annual Cost Savings	4.5/5 User Satisfaction
---------------------------------------	-----------------------------------	---------------------------------	-------------------------------



MINI-PROJECT — AI PRODUCTION GO-LIVE

APPLY THE LEARNING IN A REAL PROJECT SCENARIO.

- Execute UAT, defect tracking, go-live planning and post-launch hypercare.

Project Deliverables



PHASE VIII

PRODUCTION & CAPSTONE

MODULE 22 — SRE, RELIABILITY & INCIDENT ENGINEERING

KEEP AI SYSTEMS RUNNING IN PRODUCTION.



01



RELIABILITY ENGINEERING

BUILD STABLE, RESILIENT AND HIGHLY AVAILABLE AI SYSTEMS.

SLI / SLO / SLA

Availability

Disaster recovery

Backup strategies

Reliability planning

Reliability Metrics (Example)



Disaster Recovery & Backup (Example)



High Availability Architecture (Example)



02



PERFORMANCE & CAPACITY

ENSURE AI SYSTEMS SCALE AND PERFORM UNDER REAL-WORLD LOAD.

Load testing

Stress testing

Concurrency

Capacity planning

Latency optimization

Load Testing (Example)



Capacity Planning (Example)



Performance Optimization Areas



Latency Optimization (Example)



03



INCIDENT ENGINEERING

DETECT, RESPOND AND RECOVER FROM REAL-WORLD INCIDENTS.

Incident detection

Triage & mitigation

Root-cause analysis

AI-specific incidents

Rollback & postmortems

Incident Response Flow (Example)



Root-Cause Analysis (Example)



AI-Specific Incidents (Examples)

- High latency / slow responses
- Model API failures (rate limits, errors)
- Low retrieval quality / hallucinations
- Vector DB / embedding failures
- Data pipeline failures

Rollback Strategy (Example)



MINI-PROJECT



MINI-PROJECT — AI PRODUCTION INCIDENT LAB

APPLY THE LEARNING TO A REAL SCENARIO.

Diagnose and recover an AI system suffering from latency, errors or data/retrieval failures.

Project Deliverables





MODULE 23 — ENTERPRISE AI CAPSTONE

OMNIGUARD — ENTERPRISE AI FIELD SERVICE PLATFORM

01



BUSINESS & AI ENGINEERING

UNDERSTAND THE BUSINESS, DESIGN THE SOLUTION.

- Customer discovery
- AS-IS / TO-BE
- BRD & TDD
- LLM + RAG
- Hybrid retrieval & reranking
- Agentic workflows



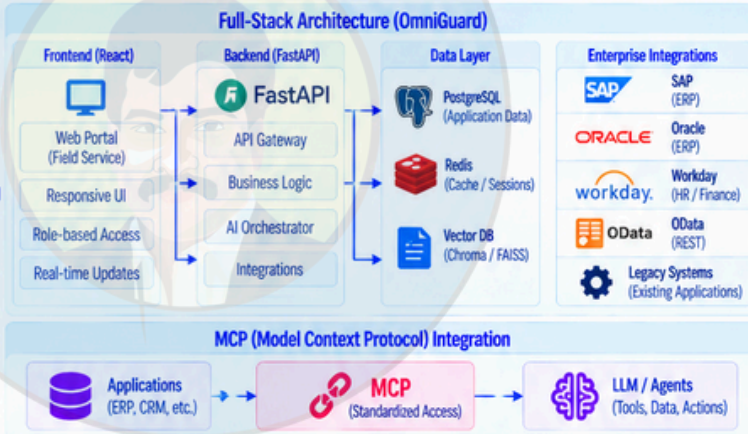
02



FULL-STACK & ENTERPRISE

BUILD A COMPLETE ENTERPRISE-GRADE AI PLATFORM.

- React frontend
- FastAPI backend
- PostgreSQL / Redis
- ERP / SAP integration
- REST / OData
- Legacy integration
- MCP



03



PRODUCTION & SECURITY

DEPLOY, SECURE AND OPERATE AT ENTERPRISE SCALE.

- Multimodal document intelligence
- OCR / images / voice
- SSO / RBAC
- Tenant isolation
- Docker / Kubernetes
- CI/CD
- LLMOps & evaluation
- Monitoring & cost control



04



CAPSTONE DELIVERY

DISCOVER → DESIGN → BUILD → INTEGRATE → SECURE → DEPLOY → MONITOR





MODULE 24 — FDE FINAL DELIVERY & CAREER READINESS

TURN YOUR PROJECT INTO AN FDE PORTFOLIO.

01



TECHNICAL PRESENTATION

SHOW HOW YOUR AI SYSTEM WORKS.

- System architecture
- AI workflow
- RAG pipeline
- Agent architecture
- Security
- Deployment



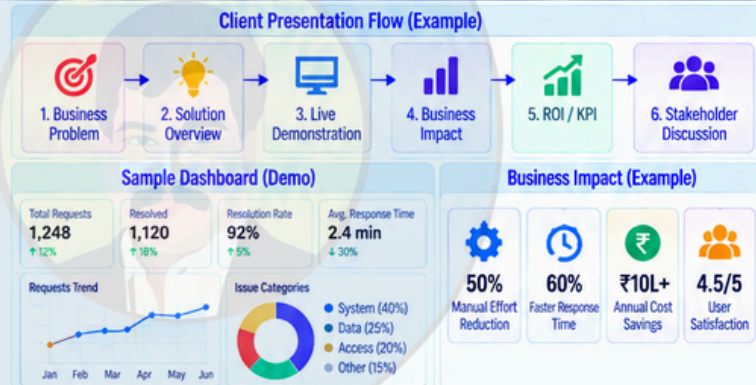
02



CLIENT PRESENTATION

COMMUNICATE VALUE TO STAKEHOLDERS.

- Business problem
- Solution
- Live demonstration
- Business impact
- ROI / KPI
- Stakeholder communication



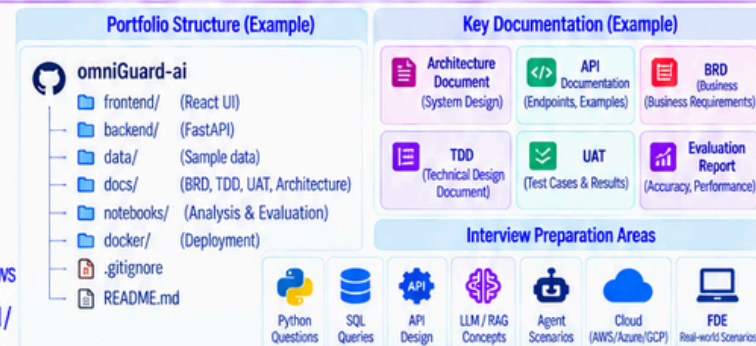
03



PORTFOLIO & INTERVIEW

PREPARE YOUR PROJECT, DOCUMENTATION AND INTERVIEWS.

- GitHub project
- Architecture documentation
- API documentation
- BRD / TDD / UAT
- Evaluation reports
- Python / SQL / API interviews
- LLM / RAG / Agent / Cloud / FDE scenarios



04



FINAL DELIVERABLE

FDE PORTFOLIO + ENTERPRISE AI CAPSTONE + TECHNICAL PRESENTATION.

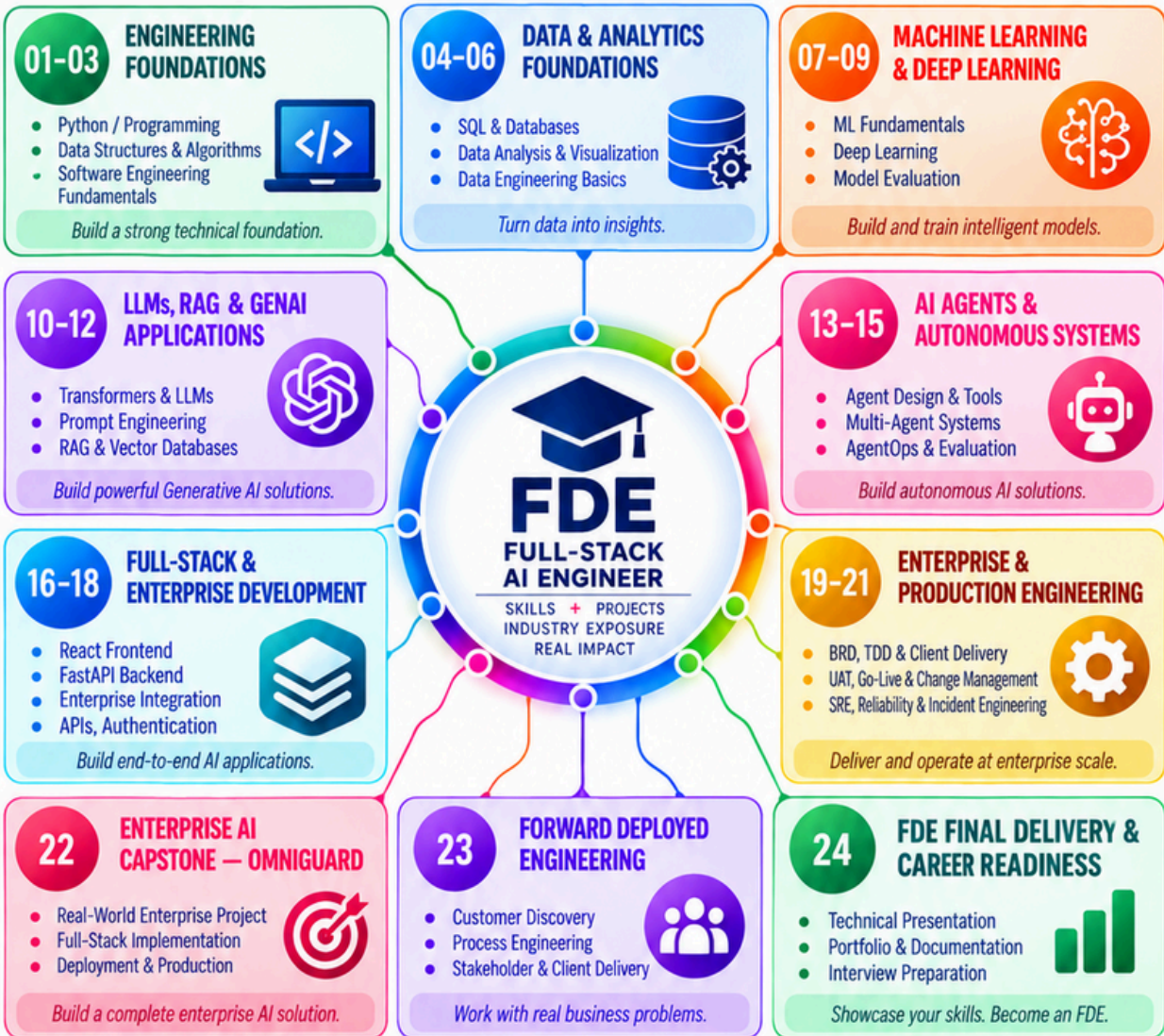


OUR 24-MODULE PROGRAM

YOUR JOURNEY TO A FULL-STACK AI ENGINEER

From
Learning
to Real Impact.

LEARN 24 MODULES. BUILD REAL SKILLS. WORK ON ENTERPRISE PROJECTS. BECOME AN FDE.



YOUR LEARNING JOURNEY



OUR RECENTLY PLACED STUDENTS

Proud to see our students moving to top companies across the globe!

Our Students are Placed at



amazon



Cognizant

Tech
Mahindra

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EY



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Our Placed Students

From Learning to Earning!



K. Manikanta
Senior Software Engineer

Placed at
Saven Technologies Pvt LTD

15 LPA

“ The training and real-time projects at Coding Masters helped me build the right skills and crack my dream job!



G. Venkata Teja
AI Engineer

Placed at
Sita Corp

3.5 LPA

“ Great mentors, practical learning, and constant support. Coding Masters gave me the confidence to grow in the AI field.



K. Naresh
Non-IT

Placed at
Wipro

3.7 LPA

“ The hands-on projects and career guidance were excellent. Coding Masters helped me achieve my goals!



V. Venkatesh
AI Engineer

Placed at
Sita Corp

3.5 LPA



K. Pravallika
AI/ML Engineer

Placed at
Saloki Technologies Pvt Ltd

3 LPA



M. Phanindra
Cyber Security Analyst

Placed at
Saloki Technologies Pvt Ltd

3 LPA

“ Same Learning.
Brighter Futures.”



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Today



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Skills



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Build Real Systems. Solve Real Problems. Create Real Impact.



Practical Learning

Hands-on skills that matter



Real Projects

Work on industry use cases



Expert Mentorship

Learn from industry experts



Career Support

Resume, interviews and job guidance



FDE Community

Learn, network and grow together



*AI Skills today.
Stronger Career tomorrow.*



Learn in Demand Skills.
Build Real Solutions.

Create a *Brighter Future in AI.*



LLMs

RAG

Agents

Cloud

Production



Industry-Relevant Curriculum



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SKILL TODAY



BRIGHTER TOMORROW



STRONGER TOGETHER