🚀 Quick Start Guide

Your navigation hub for learning AI evolution from rule-based systems to agentic workflows. Choose your path based on your role and goals.

⭐ START HERE: Top Priority Resources

1. **Master Evolution Guide** — Read this first to understand the big picture and all 6 stages
2. **Rule-Based Code** — Run this to see limitations of Stage 1 firsthand
3. **Agentic Workflows Guide** — Deep dive into the cutting edge (Stage 6)

📚 All Learning Resources

Core Guides

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Master Evolution Guide

Complete overview of all 6 stages from 1980s rule-based systems to 2024 agentic AI. One use case throughout (L1 IT Support). Side-by-side comparisons, metrics, decision framework.

Read Guide →

Agentic Workflows Guide

PRIORITY! Deep dive into multi-agent systems with Google ADK. Architecture, implementation, production considerations, safety guardrails for banking.

Read Guide →

RAG Implementation Guide

Retrieval-Augmented Generation with vector search. How to ground LLM responses in your documentation. Includes chunking strategies, embedding models, production tips.

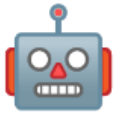
Coming Soon

Working Code Examples

Rule-Based Agent

RUN THIS FIRST! Fully functional Python agent using keyword matching and decision trees. Processes 12 test tickets. See the limitations that drove AI evolution.

View Code → Read Docs →



Multi-Agent System

Complete agentic workflow implementation with ADK. Includes diagnostic, knowledge, and resolution agents. Orchestration, tool calling, self-correction.

Coming Soon

RAG System

RAG implementation with ChromaDB and Gemini. Index runbooks, retrieve context, generate grounded responses. Includes evaluation metrics.

Coming Soon

🎯 Learning Paths by Role

Choose Your Path

👨‍💻 Data Engineer (Backend Focus)

Goal: Understand how to build production AI systems

- **Week 1:** Master guide + Rule-based code + Traditional ML basics
- **Week 2:** RAG guide + Build RAG prototype with your data
- **Week 3:** Fine-tuning guide + Cost/performance analysis
- **Week 4:** Agentic guide + Multi-agent architecture design

Key Skills: Pipeline design, tool integration, monitoring, safety

🧠 ML Engineer (Model Focus)

Goal: Master model selection, fine-tuning, and optimization

- **Week 1:** Master guide + Compare traditional ML vs LLMs
- **Week 2:** Prompting guide + RAG guide + Evaluation metrics
- **Week 3:** Fine-tuning guide + Hands-on fine-tuning lab
- **Week 4:** Agentic guide + Agent orchestration patterns

Key Skills: Model selection, prompt engineering, RAG vs fine-tuning trade-offs

🏗️ Architect (System Design Focus)

Goal: Design scalable, cost-effective AI systems

- **Week 1:** Master guide + Decision framework + Cost analysis
- **Week 2:** All stage guides (scan for architecture patterns)
- **Week 3:** Agentic guide + Production considerations
- **Week 4:** Design system for 3 internal use cases

Key Skills: Architecture patterns, ROI analysis, production checklist

🌱 Beginner (New to AI/ML)

Goal: Build foundational understanding

- **Week 1:** Master guide (read slowly) + Run rule-based code
- **Week 2:** Prompting guide + Experiment with Gemini API
- **Week 3:** RAG guide + Build simple Q&A bot
- **Week 4:** Agentic guide (concepts only, skip advanced patterns)

Key Skills: Understand when to use what, basic implementation

📅 4-Week Structured Plan

Comprehensive Learning Timeline

W1

Week 1: Foundations

Read: Master guide (Stages 1-2)

Code: Run rule_based_agent.py + exercises

Build: Simple ML classifier on your team's tickets

Deliverable: Comparison doc (rule-based vs ML)

W2

Week 2: GenAI Era

Read: Master guide (Stages 3-4) + RAG guide

Code: Experiment with Gemini prompting

Build: RAG prototype with ChromaDB

Deliverable: Working RAG Q&A system

W3

Week 3: Advanced Techniques

Read: Master guide (Stage 5) + Fine-tuning guide

Code: Prepare dataset, fine-tune Gemini

Build: A/B test base vs fine-tuned vs RAG

Deliverable: Metrics comparison report

W4

Week 4: Cutting Edge

Read: Master guide (Stage 6) + Agentic guide (full)

Code: Build multi-agent system with ADK

Build: Design agent architecture for your use case

Deliverable: Team presentation + decision framework

🎓 What You'll Learn

✅ After Week 1

- Understand limitations of rule-based systems
- Know when traditional ML is appropriate
- Can build simple classifiers

✅ After Week 2

- Master prompt engineering techniques
- Build RAG systems from scratch
- Understand retrieval strategies

✅ After Week 3

- Know when to fine-tune vs RAG
- Can estimate costs and timelines
- Evaluate model performance

✅ After Week 4

- Design multi-agent workflows
- Implement production safety measures
- Choose right approach for any use case

📞 Support & Community

Internal Channels

Slack: #ai-agents, #ml-engineering
Office Hours: Tuesdays 3-4pm
Contact: ai-team@yourbank.com

External Resources

Google ADK: ai.google.dev/adk
Gemini API: ai.google.dev/gemini-api
Discord: Gemini API Community

Troubleshooting

Code Issues: Check README files
API Errors: Verify credentials
Questions: Post in Slack first

🎯 Next Steps

Ready to Get Started?

Choose one based on your learning style:

📖 Start with Theory

💻 Jump into Code

🚀 See the Future