

12-Week AI System Design Curriculum – Curated Links

Week 1–2: Embeddings & Semantic Search

- Improve GenAI Search with Vertex AI Embeddings
- Vertex Text Embeddings – Docs
- Embedding Task Types
- Gemini Embeddings API
- Pinecone – Vector Embeddings Explained

Week 3–4: Vector Search & RAG Foundations

- Vertex Vector Search Overview
- Matching Engine Overview
- Introducing Vertex RAG Engine
- RAG Engine Resource Hub
- Build RAG with Gemini 2 Flash

Week 5–6: Hybrid Search & Chunking

- Pinecone – Hybrid Search Guide
- Hybrid Search Intro
- Qdrant – What is a Vector DB?
- Cohere – Chunking for RAG

Week 7–8: Advanced Retrieval & Agentic RAG

- Agentic RAG – Cohere
- RAG Best Practices
- Multi-System Agents – Vertex
- Vertex Agent Engine Overview

Week 9–10: Safety, Guardrails, Evaluation

- Guardrails for GenAI
- Secure GenAI Systems – Google Cloud
- Evaluating GenAI Systems

Week 11–12: AI for Financial Services & Leadership

- Financial Services AI Solutions – Google Cloud
- AI Strategy & Transformation