

CLOUD COMPUTING, APIS & AI ENGINEERING

CHAPTER 01**Computing & The Cloud**

- History of Computers
- Cloud Computing Principles
- Compute Engine Architecture
- Google Cloud Data Centers
- Setting up a Cloud Account & Linux

CHAPTER 02**Internet & World Wide Web**

- The Internet Infrastructure
- Google Cloud Storage (GCS)
- HTML Primer & Structure
- CSS Primer & Styling
- JavaScript Primer & What is HTTP?

CHAPTER 03**Python & GitHub**

- Python Primer & Core Syntax
- Essential Python Libraries
- Python Invoicer Project
- Git Version Control & GitHub Workflow

CHAPTER 04**Containers & Cloud Run**

- Docker Containers Fundamentals
- Google Cloud Run Serverless Deployments
- Cloud Run Hello World Explained
- Cloud Run: Flask HTML Data Form

CHAPTER 05**Databases**

- Database Origins & Evolution
- NoSQL Databases Overview
- SQL Primer & Querying
- Google Cloud Datastore & Python Datastore

CHAPTER 06**APIs & Data Visualizations**

- API (Application Programming Interface)
- Data Visualization Strategies
- API Price & Volume Graphs
- Integrating Major APIs

CHAPTER 07**Networking & Security**

- Networking Principles & VPCs
- Designing Scalable Networks
- Designing for Cloud Security & Encryption
- Cloud Key Management Service (KMS)

CHAPTER 08**Google APIs**

- Cloud Translation API Integration
- Cloud Vision API Implementation
- Cloud Speech & Text APIs
- Hands-on Google API Assignment

CHAPTER 09**NLP & Sentiment Analysis**

- Natural Language Processing Foundations
- Text Analytics & Sentiment Extraction
- Real-World NLP Examples & Use Cases

CHAPTER 10**Gemini & Prompt Engineering**

- The AI Revolution Era
- Gemini Models & Capabilities
- Prompt Engineering Patterns & Exercises

CHAPTER 11**AI Agents**

- Chatbots & Conversational Interfaces
- Gemini Enterprise Agent Platform
- Building Conversational AI Agents

CHAPTER 12**Machine Learning**

- Machine Learning Fundamentals
- Regression Models & Applications
- Classification Algorithms & Metrics