Hands-On Lab Session Overview

2 Hours of Practical LLM Programming Experience

🚀 Part 1: Environment Setup (20 minutes)

0:00-0:10: Python environment verification
0:10-0:15: LiteLLM installation and API key setup
0:15-0:20: First successful API call test

Goal: *Everyone ready to code with LLMs*

💻 Part 2: Basic API Mastery (30 minutes)

0:20-0:35: Simple completion exercises with different models
0:35-0:45: Error handling and debugging practice
0:45-0:50: Parameter exploration (temperature, max_tokens)

Goal: *Confident with basic LLM API calls*

🎨 Part 3: Prompt Engineering Workshop (40 minutes)

0:50-1:05: Zero-shot prompting challenges
1:05-1:20: Few-shot learning implementations
1:20-1:30: Chain-of-thought & Role prompting

Goal: *Master advanced prompting techniques*

📈 Part 4: Advanced Applications (30 minutes)

1:30-1:55: Build advanced application workflows

Goal: *Build production-ready LLM applications*

What You'll Build Today

📄 Text Processor

- Summarization tool
- Multi-language translator
- Style rewriter
- Sentiment classifier

🤖 Intelligent Assistant

- Context-aware chatbot
- Code explanation tool
- Research assistant
- Content creation workflow

Learning Outcomes

- ✓ Install and configure LiteLLM
- ✓ Write robust error handling
- ✓ Master key generation parameters
- ✓ Implement advanced prompting

📋 Pre-Lab Checklist

- ✓ Python 3.8+ installed
- ✓ Text editor or IDE ready
- ✓ Internet connection
- ✓ Enthusiasm for learning!

Bonus: Students who complete all exercises early will tackle advanced challenges like multi-model comparison and custom prompt optimization.