

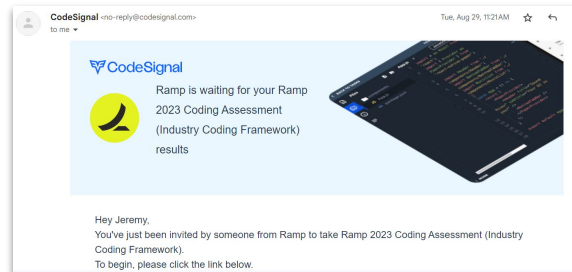


# Mockmate: AI Powered Technical Job Interview Preparation

Rudra Barua, Andrew Sima, Jeremy Zhang  
AC215, Fall 2023

# Motivation

- Inefficient traditional interview prep
  - Requires domain expertise in interviewer
  - Inconsistent feedback
  - Misses nuances of specific roles or industries
  - Easy to over-prepare, under-prepare, or prepare for the wrong skills
- Provide immediate, actionable, and unbiased feedback
- Identify weaknesses in specific areas
- Breakthroughs in LLMs allow for personalization
- We're graduating seniors that need jobs

A screenshot of a coding practice dashboard. It shows a list of problems with columns for Title, Solution, Acceptance, Difficulty, and Frequency. The problems are: 1. Find Largest Value in Each Tree Row (65.3% acceptance, Medium difficulty), 2. Two Sum (50.9% acceptance, Easy difficulty), 3. Add Two Numbers (41.4% acceptance, Medium difficulty), 4. Longest Substring Without Repeating Characters (34.1% acceptance, Medium difficulty), 5. Median of Two Sorted Arrays (38.2% acceptance, Hard difficulty), 6. Longest Palindromic Substring (32.9% acceptance, Medium difficulty), 7. Zigzag Conversion (46.1% acceptance, Medium difficulty), 8. Reverse Integer (27.9% acceptance, Medium difficulty). On the right, there is a sidebar with company logos and their associated scores: Facebook (60), Bloomberg (60), Amazon (50), Apple (40), TikTok (40), Microsoft (40), Salesforce (40), Google (40), Uber (40), Walmart Labs (40), Adobe (40), PayPal (40), Goldman Sachs (40), Oracle (40), Citicorp (40), Nvidia (40), Snapchat (40), Doordash (40), JP Morgan (40), and Adision (40).

# Use Case Scenario

- **Guided Problem Solving**

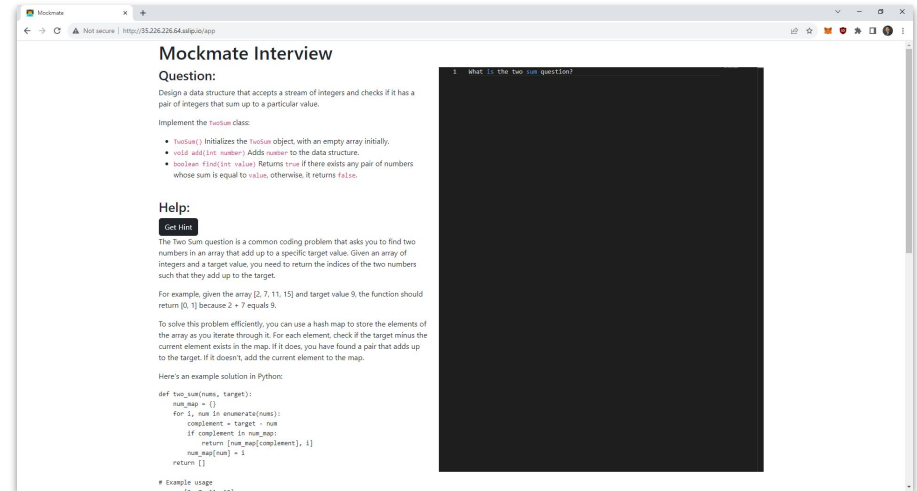
- Instead of reading the entire solution, the software guides you through the problem step-by-step

- **Stronger Understanding**

- Target specific techniques, focus on topics that actually help you improve

- **Realistic Simulation**

- Robust and minimal user interface with built-in editor, mimicking a real interview



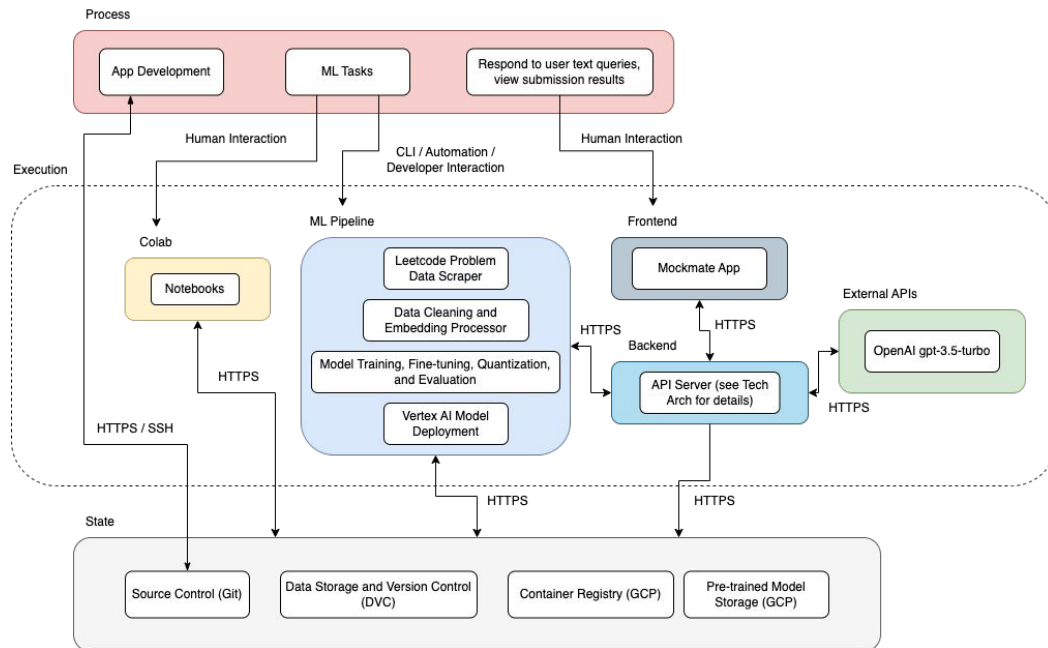
# Challenges and Scaling

- **Model Training**

- Scraped and prepared training problems from online
- Used PEFT methods (QLORA) to fine-tune Open-Llama models

- **Containerization**

- Every component (i.e. API server, Model, Data Scraper) has its own Docker container
- Used Ansible and Kubernetes to automatically scale up, configure, and deploy containers to GCP





**Harvard** John A. Paulson  
**School of Engineering**  
and Applied Sciences

# Thank you!

Github Repository:

[https://github.com/jeremyzhang1/AC215\\_Mockmate/](https://github.com/jeremyzhang1/AC215_Mockmate/)