

# Saad Mahboob

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## EDUCATION

### Franklin and Marshall College

B.A. - Double major in Computer Science and Business Organizations

Awards: Honors List Spring'20 and Fall'20 | Dean's List Fall'19 and Fall'18

Other Achievements: Davis Projects for Peace | Bagdasarian International Study Fund | 100% Merit Scholarship

## WORK EXPERIENCE

### Full Stack Software Engineer | Morgan Stanley

Aug 2022 – Present

- Integrated Generative AI solutions to streamline the account opening process for wealth management clients, reducing the time for an account opening workflow from 20 days to 5 days.
- Built an intelligent document processing platform using OCR and GPT-4 Turbo to extract and validate data from financial documents, transforming unstructured data into formatted tables with highlighted document citations.
- Implemented document translation, summarization, source of wealth corroboration using Chain of Thought prompting, MapReduce summarization, embeddings, and Retrieval-Augmented Generation (RAG).
- Led a winning team in a GenAI hackathon with 3,000 participants, spearheading the integration of an OpenAI-powered chatbot for real-time workflow queries, significantly improving efficiency for financial advisors.
- Worked with workflow team to automate banking processes like incoming wires, Ach, Journal transfers handling 5 million document uploads and millions of transactions per year.

### Android Cybersecurity Developer | Franklin and Marshall College

June 2021 – Aug 2021

- Developed research software with an academic advisor to identify any leaks of sensitive information on devices.
- Improved program efficiency by 15%, implementing an optimized graph structure that can perform faster lookups.

### Software Engineer, Android | Hope Within Community Health Center

April 2021 – July 2021

- Utilized Agile methodology to develop a mobile application for patients to request and track medication refills.
- Helped the clinic improve the refill response time by 25% with patients having 24-hour access to submit requests.
- Lead a team of 4, conducted design reviews, code reviews and published the application on Google Play Store.

### Artificial Intelligence Research Assistant | Franklin and Marshall College

Jan 2021 – May 2021

- Implemented a task planner on a socially assistive robot which can plan tasks to help sort medications.
- Reduced the task planning calculations of the robot by 10% bringing down latency on larger domains.
- Developed an end-to-end universal Task Planning Parser which can parse out the HDDL input for a robot.

## TECHNICAL PROJECTS

### [Accountya](#) | iOS & Android | Swift, Java

- Created a responsive mobile application to solve complex cost and financial accounting formulas.
- The app has 750+ downloads and 10,000+ impressions on the Apple App Store.

### [Halal Eats](#) | Android | Drexel Hackathon, Java

- Created an android application to help find halal restaurants in the top cities of the United States using the Google Maps API and android recycler view.

### [Hacker Quiz](#) | Android | SQLite, Lottie

- Designed and developed an android application for software developers to test their programming skills.

### [Algorithm Visualizer](#) | Web | React, HTML/CSS, Bootstrap

- Created a react application using reusable style components for visualizing 5 different sorting algorithms and comparing their time complexities.

## TECHNICAL SKILLS

**Languages:** Java • Python • HTML/CSS • JavaScript • TypeScript • C++ • C#

**Technologies:** Git • Kafka • MQ • IBM DB2 • PostgreSQL • RESTful API • Linux

**Frameworks:** Spring Boot • Junit • Angular • React • Jasmine • Karma

**GenAI and LLM:** Chain of Thought (CoT) • Few-shots • MapReduce • Retrieval-Augmented Generation (RAG) • Langchain

## COURSEWORK

Mobile Applications Development • Algorithms • Human Computer Interaction • Python Problem Solving • Java Data Structures  
Dynamic Programming (CS3) • Theory of Computational Science • Computer Organizations • Discrete Mathematic  
Computer Networking • Operating Systems • Probability and Statistics • Calculus II • Symbolic Logic