

Kavin Rajasekaran

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EDUCATION

University of California, Merced

Bachelor of Science, Computer Science and Engineering
Dean's Honors List Fall 2021 / Spring 2024

Merced, California

Aug. 2021 – Dec. 2024

RELEVANT COURSEWORK

- Data Structures
- Algorithm Analysis
- Operating systems
- Database Systems
- Computer vision
- Artificial Intelligence
- Software Engineering

EXPERIENCE

Undergraduate Research Assistant

University of California, Merced

May 2024 – Present

Merced, California

- Working with an associate professor, currently implementing a parallel version of SPHINCS+ using AVX512 or Armv8-A Neon instruction sets
- Implementing x4 x8 or x16 ways of the SPHINCS+ among different parameter sets
- Researching parallel GPU implementations for this algorithm for 300x faster signature generation.

Software Engineering Fellow

Headstarter AI

July 2024 – Aug. 2024

Remote

- Creating 5 AI projects by the end of this fellowship.
- Developed projects from design to deployment leading 4+ engineering fellows using MVC design patterns
- Coached by Amazon, Bloomberg and Capital One engineers on Agile, CI/CD, Git and microservice patterns

ACM at UC Merced (Association for Computing Machinery)

Project Fishtank

January 2023 – May 2023

Merced, CA

- The goal of this project is to re-purpose Chromebooks past their Auto Update Expiration date and convert them into a computer with a new operating system and run a Tor Protocol
- Used Crouton (a universal chroot environment) to make this possible, by bypassing all the native Chromebook restrictions.

PROJECTS

pdfGPT | *Python, Open AI, Tesseract*

June 2023 – July 2023

- Used Flask, Python, and HTML to create an online PDF summarizing tool
- Converted PDFs to images using pdf2Image and used Tesseract to extract the text of given images.
- Leveraged AI using OpenAI's API to provide a summary of the user's provided PDF
- Performed better than Apple's own built-in OCR in Preview due to image cleanup algorithms that were implemented prior to character recognition

UC Merced Course Stats | *Python, SQL, Budibase*

June 2023 – July 2023

- Collaborated with another student in order to build an improved course scheduling software for UC Merced.
- Implemented important features such as viewing an instructor's ratings, class grading policies, prerequisites, corequisites, and any required textbooks.
- Implemented a page that lets students view their own schedules that incorporates all the classes they have added.

TECHNICAL SKILLS

Languages/Database: Python, C, C++, Go, R, MATLAB, Swift, Bash, MIPS Assembly, HTML/CSS, Javascript

Frameworks: Flutter, Flask, FastAPI, Elasticsearch, SwiftUI

Developer Tools: Linux, Git, Docker, Jupyter Notebook, Wireshark

Libraries: Tesseract, Pytorch, NumPy, Tensorflow, OpenAI API