

Pranav Banwasi

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EDUCATION

University of California, Berkeley

Berkeley, CA

BS in Electrical Engineering and Computer Science — GPA: 3.8

Expected Graduation: Dec 2025

- Relevant Coursework: Operating Systems, Database Systems, Optimization Models, Data Structures and Algorithms, Computer Architecture, Full-Stack Web Development, Linear Algebra, Multivariable Calculus, Probability, Discrete Math

EXPERIENCE

Software Engineering Intern

June 2024 - Present

Optum

Eden Prairie, MN

- Developed a FHIR converter API in Python to transform clinical PDF questionnaires into structured hierarchical FHIR-formatted JSON for downstream usage, integrating into a Boomi workflow with Azure's Document Intelligence for extraction and GPT-4o for data organization and translation.
- The API used an algorithm I designed utilizing vector strategies and asynchronous calls to optimize memory and runtime performance, leveraging Fast API, resulting in annual savings of over \$10 million for the company.
- Developed an automated QA tool that fills out online forms using Playwright and Selenium, incorporating GPT-4o for generating input data, and verifying both frontend functionality and accurate backend reception.

Research Intern

Feb 2022 – May 2022

SELCO Foundation

Bangalore, KA

- Developed strategies for tackling sustainability problems for rural/impoverished textile, farming, and food businesses. The strategies involved using solar technologies and government/NGO programs for rapid growth and sustenance.
- Crafted research papers analyzing case studies of how deprived businesses in rural Zimbabwe and India can utilize solar energy to combat poor, uncontrollable conditions such as climate, governmental policies, and lack of resources

PROJECTS

Random World Generator | *Java*

Nov 2023

- Developed a pseudo-random world generation algorithm that builds a connected room-hallway map based on seeds that can be navigated by a user's avatar and can be regenerated through saving and loading
- Program has encounter features that deploy a user into another world/frame for a particular purpose, timing for game use, and a NPC that chases the user following a path generated via BFS

Wordnet | *Java*

Oct 2023

- Developed an online Ngram viewer that displays a word(s)' history lexically and graphically since 1400 constructed through extensions of TreeMap, handling approximately 500,000 words simultaneously given a user's queries
- Also implemented hyponym handler which unveils a word(s)' hyponyms in a specific time frame depending on its historical popularity

Noteworthy A Cappella Website | *React, HTML, CSS, Javascript, Figma*

March 2024

- Developed a website for Noteworthy, an A Cappella group at UC Berkeley that has over 5 million views on various social platforms
- Website features a video carousel utilizing the React Slick library and member cards with popup overlays displaying member bios, roles, and information. The website design was inspired by a simplistic/modern take on Noteworthy's color themes

RISC-V CPU | *Logism, RISC-V, C*

March 2024

- Created a CPU that handles every 32-bit RISC-V instruction and memory processes through a register file, branch instruction handler, DMEM, load/storing mechanisms, immediate generator, and control logic
- The control logic interprets various instructions and directs which procedures must occur through a ROM with several binary inputs such as instruction type, program counter manipulations through branching and jumping, writing to a register, and loading/storing to particular memory addresses

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML, CSS, Scheme, C, RISC-V, x86

Developer Tools: VS Code, Eclipse, PyCharm, IntelliJ, Brackets, Poetry, Git, Jupyter Notebook, Playwright, Selenium, OpenAI API, YOLO, Langchain, Tenacity