

Harshil Patel

✉ harshilp2107@gmail.com ☎ 5306016632 🔗 <https://www.linkedin.com/in/harshilpatel2107/> 🌐 harshilpatel.me

EDUCATION

Bachelor of Science: Computer Science

University of California – Davis • 2023 • GPA: 3.6

EXPERIENCE

Software Developer

gem5 | University of California – Davis

August 2023 – Present, Davis, CA

- Implementing new features in C++ and Python including models for computer architecture devices.
- Improving the current code base through refactoring, cleaning up, removing dead code, and adding unit tests and/or integration tests.
- Reviewing code from the community and interacting with the worldwide developer community via mailing lists and in person meetings.

Software Developer Intern

Orange Technolab

June 2022 – September 2022, Ahmedabad, Gujarat, India

- Improved accuracy of the travel tracking feature for tracking on site employee's commute by programming a new demo using Java, Google directions API, and Android studio that displays the travel path to the destination including detours.
- Improved their android app by improving thier APIs and fixed various other bugs.

PROJECTS

gem5 Vision | <https://resources.gem5.org/>

January 2023 – June 2023

- Created an infrastucture for gem5 Resources for Senior Design project as a team.
- Implemented advanced search functionality to enhance resource discovery within the gem5 ecosystem.
- Introduced semantic versioning and built a comprehensive resource categorization system for easy access to resources.
- Expanded gem5's database support by integrating local and remote JSON files and MongoDB, improving efficiency and user accessibility.
- Published as a part of ISCA 2023: gem5 Workshop.

QuixFolio | <https://quixfolio.vercel.app/>

March 2023 – April 2023

- Collaborated with peers to create an open-source project to streamline the portfolio creation process by providing a wide range of customizable templates and easy information input options.
- Implemented hosting capabilities on GitHub pages, enabling seamless portfolio sharing and accessibility.
- Successfully launched the alpha version of QuixFolio, which garnered significant traction with over 190 visitors and 1000+ page views within the first week.

L-Store Database Implementation

January 2023 – March 2023

- Collaborated with team members to developed a multi-threaded Python-based L-Store database with support for essential functionalities such as search, insert, update, sum, and delete queries.
- Ensured data integrity and persistence by incorporating disk writing mechanisms, safeguarding critical information against system failures or crashes.
- Utilized a BTree data structure to efficiently index and organize data, enhancing the database's search and retrieval operations for faster response times.

OMR Scanner API | https://github.com/Harshil2107/OMR_Scanner_API

November 2022 – November 2022

- Developed an Optical Mark Recognition (OMR) scanner using OpenCV to efficiently process images of OMR sheets and answer keys.
- Implemented image processing techniques to extract and analyze marked areas, accurately identifying correct answers and calculating the total score.
- Designed and programmed a Restful API using Python and Flask, allowing external users to interact with the OMR scanner through a simple and intuitive POST request.

SKILLS

Proficient: C, Python, Java, C++, HTML, CSS, React, SQLite

Familiar: Go, Flutter (dart), Android Studio, OpenCV, Flask, Express, MongoDB