

# Harshil Patel

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## EDUCATION

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### BS in Computer Science

Sept 2019 - June 2023

University of California - Davis, CA

GPA: 3.6/4.0

## WORK EXPERIENCE

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### Software Developer | *University of California - Davis*

June 2023 - Present

- Contributing to gem5, a widely acclaimed computer architecture simulator with over 5500 citations since 2010, thousands of active users, and is integral to approximately 20% of top-tier research papers. Used by industry leaders such as AMD, Arm, Google, and many others.
- Actively engaged with the gem5 community on GitHub, Slack, and mailing lists, providing support and addressing inquiries
- Led efforts to enhance gem5 resources with comprehensive tooling and introduced benchmark suites for efficient and reproducible research workflows

### Software Developer Intern | *Orange Technolab, Ahmedabad, India*

June 2022 - Sept 2022

- Improved accuracy of the travel tracking feature for tracking on-site employee's commutes 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 their APIs and fixed various other bugs

## PROJECTS

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### gem5 Vision | [resources.gem5.org](https://resources.gem5.org) | [github.com/gem5/gem5-resources-website](https://github.com/gem5/gem5-resources-website)

Jan 2023 - June 2023

Python, Flask, MongoDB, ReactJs, NextJs, HTML/CSS, GitHub Actions

- Created an infrastructure for gem5 Resources for the 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 as well as MongoDB, improving efficiency and user accessibility.
- Currently the database handles 1.2 million+ requests a month and the website has 20,000+ visitors a month.
- Published as a part of ISCA 2023: gem5 Workshop.

### QuixFolio | [quixfolio.vercel.app](https://quixfolio.vercel.app) | [github.com/QuixFolio](https://github.com/QuixFolio)

Mar 2023 - Apr 2023

Next.js, React, GitHub API

- 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 | [github.com/wohmas/165A\\_group](https://github.com/wohmas/165A_group)

Jan 2023 - Mar 2023

Python (threading)

- Collaborated with team members to develop 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.

## SKILLS

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Python, Java, JavaScript, C++, C, Flask, SQLite, OpenCV, Express, MongoDB, HTML/CSS