

MIHIKA SHARMA

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Education

Purdue University

B.S. in Computer Science

Certifications in System Design, Applications of Data Science

Specialization: Software Engineering

expected Dec 2025

West Lafayette, IN

Relevant Coursework

- Data Structures & Algorithms
- Discrete Mathematics
- Artificial Intelligence
- Systems Programming
- Computer Architecture
- iOS Development

Experience

Saarathi

Software Engineer Intern

July 2024 – present

Delhi, India

- Led API development and integration for a digital lending platform using **Java Spring Boot**, driving system enhancements.
- Designed a new digital journey for a key partner, resulting in a **61%** reduction in time taken to complete the journey.
- Managed **local testing and integration of APIs**, documenting time savings and substantial improvements in journey efficiency.

Bechtel IoT: Vertically Integrated Project

Machine Learning Engineer

Jan 2024 – May 2024

Purdue University, West Lafayette, IN

- Worked on the ML team to create a safety device for the newly opened Design and Innovation Centre at Purdue, monitoring 11 environmental variables.
- Developed a **KERAS**-based ML model for **time series forecasting** and **anomaly detection**, improving safety response time by identifying potential hazards in real-time.
- Created a comprehensive plan for an **error reporting system** in accordance with **OSHA** requirements to enhance regulatory compliance.

Purdue University: The Data Mine, DORIS

Data Science Researcher

Aug 2022 – May 2023

West Lafayette, IN

- Analyzed workspace utilization data using **Pandas**, **NumPy**, and **Matplotlib**.
- Created **data visualizations** to identify post-COVID trends.
- Developed a comprehensive report on COVID-19's impact using **Agile** practices and participated in **Scrum** meetings.

Projects

GradMove: Web App for Women's Relocation Insights | *Python, Selenium, BeautifulSoup, Streamlit*

April 2024

- Co-developed GradMove, a web app providing insights into urban living for women.
- Led back-end development with **web scraping** and **API integration**.
- Enhanced UX with an **OpenAI**-powered chatbot.

Custom Command-Line Shell | *C++, Flex, Bison*

March 2024

- Developed a command-line shell, replicating functionalities of **bash** and **csh**.
- Implemented **command parsing**, **execution**, **I/O redirection**, and **piping** using **C++**, **Flex**, and **Bison**.
- Added support for **signal handling**, **background process management**, and **environment variable expansion**.

Custom Malloc Implementation | *C*

Jan 2024

- Implemented a memory allocator inspired by **DLMalloc**.
- Managed memory using **sbrk()**, custom data structures, **constant-time coalescing**, multiple free lists, and optimized metadata.
- Handled advanced tasks like managing multiple chunks, deallocation, and minimizing fragmentation.

Skills

Languages: Python, Java, C, C++, HTML/CSS, JavaScript, Swift, Node.js

Frameworks/Libraries: Spring Boot, PyTorch, Scikit-learn, NumPy, Pandas, Keras, Streamlit, Selenium, BeautifulSoup, React, Express

Tools: Git, Linux, Tableau, MS Office, LaTeX, VS Code, REST APIs