Swastik Agarwala

425-628-8327 | agarwalaswastik@gmail.com

github.com/agarwalaswastik | linkedin.com/in/swastik-agarwala | swastik-agarwala.com

EDUCATION

Purdue University   West Lafayette, IN
*B.S. in Computer Science, Minor in Math, Economics **(GPA: 3.95/4.0, Dean's List)***   *Expected May 2026*
Relevant Coursework: *Software Engr., ML, Operating Systems, C Programming, OOP, DSA*

SKILLS

Languages: Java, Python, JavaScript, TypeScript, C, C++, SQL (MySQL), Dart, HTML, CSS, R
Technologies: React, Node.js, Redux, Express.js, Expo, Flutter, JUnit, Three.js, pandas, NumPy, Matplotlib
Developer Tools: Git, Docker, AWS, Maven, Firebase, Linux, Bash

EXPERIENCE

SML ISUZU Ltd. (Vehicle Manufacturer) – *Software Engineering Intern*   May 2024 – Present
- Built a **React Native (Expo) mobile app** to track the condition of factory equipment used by employees
- Designed a user-friendly interface for creating, querying and updating machine maintenance notifications
- Included hardware information and its position in the repair pipeline, **streamlining the repair process**

Jyoti Portfolio Pvt. Ltd. (Stock Broker) – *Software Engineering Intern*   June 2023 – July 2023
- Developed a **Java (Maven) desktop client** for the National Stock Exchange (NSE) India Extranet REST API
- Designed a seamless UI using **Java Swing** to browse and download items from the file-system served by the API
- Devised a query definition system for downloading extensive file lists, **saving 3+ hours of daily manual work**

Purdue EPICS Information Management Systems – *Student Developer*   Jan 2023 – Apr 2023
- Worked on a **nutrition app** for CKD patients (endorsed by NKF) using **Flutter and Firebase (Serverless)**
- Implemented key features involving personalized push notifications and reminders using **Cloud Messaging**
- Collaborated with a talented team of 9+ Purdue students, ensuring seamless integration and functionality

Purdue Computer Science Dept. – *Undergraduate Teaching Assistant*   Jan 2024 – Apr 2024
- Held **office hours, lectures, and lab sessions** for C programming and Discrete math courses (800+ students)

PROJECTS

Discussion Forum – Reddit Clone | *TypeScript, React, Express.js, MongoDB* | GitHub   June 2024 – Present
- Leveraged the **MERN stack** to develop the website, including **JWT** for user authentication, **Redux Toolkit** for state management and API integration, **React Router** for client-side routing, and **TailwindCSS** for styling
- Implemented features for starting, joining communities, and creating, voting, deleting posts with text and images

Custom Unix Shell (Bash Strategy) | *C++, Lex, Yacc, Unix, Bash, OOP*   Feb 2024 – Apr 2024
- Employed appropriate system calls to pipe executables, manage processes, and handle environment variables
- Utilized **Lex and Yacc** for parsing, and **OOP** to store, manage, and execute different types and lists of commands
- Integrated features such as subshells, wildcards, interpolations, conditional statements, loops, and more
- Incorporated a readline interface with a comprehensive edit mode and command history

Gesture & Speech Browser Control | *Python, OpenCV, Concurrency, MediaPipe* | GitHub   Jan 2024
- Engineered a **Python application** to capture hand gestures and voice commands and a **Chrome extension** to translate them into effects in the browser such as navigation, scrolling, volume adjustment, etc.
- Integrated **OpenCV** for video and **PocketSphinx** for speech concurrently using **multiprocessing**
- Tracked positions of fixed landmark points on the hand using **MediaPipe** and mapped them to intuitive gestures
- Established real-time communication between the Python app and the Chrome extension via **web-sockets**

LEADERSHIP

Boiler Gold Rush (Purdue Orientation Programs) – *Team Leader*   Mar 2023 – Present
- Participated in Purdue's flagship week-long, on-site orientation program to welcome new undergraduates
- Guided directly **10+ incoming students**, providing support and ensuring a smooth transition to university life

Hello World Hackathon 2023 – *Exec Team Member*   Jan 2023 – Sep 2023
- Organized a hackathon at Purdue with **300+ participants** aimed at introducing freshmen to hackathon culture
- Coordinated organizers, developed the event website, and helped raise funds through sponsorships