

Swastik Agarwala

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EDUCATION

Purdue University

B.S. in Computer Science, Minor in Math, Economics (GPA: 3.92/4.0, Dean's List)

Coursework: Software Engineering, Operating Systems, Analysis of Algorithms, Data Mining

West Lafayette, IN

Expected May 2026

TECHNICAL SKILLS

Languages: C, C++, JavaScript, TypeScript, Java, Python, HTML, CSS, SQL (PostgreSQL)

Technologies: React, Redux, Qt, Spring, Express.js, Flutter, JUnit, Jest, NumPy, Pandas, Matplotlib

DevOps: Git, Docker, AWS, Firebase, Linux, Bash

Competitive Programming: ICPC-ECNA Regionals, Rated 1846 Codeforces (300+ problems), IOI Camp India

EXPERIENCE

Mobile Engineering Intern

SML ISUZU Ltd.

May 2024 – July 2024

Chandigarh, India (Hybrid)

- Developed a React Native app to manage factory equipment and coordinate repairs used by 400+ employees.
- Integrated with SAP back-end to manipulate data (CRUD) like machine specifications, location, and repair status.

Software Developer

EPICS at Purdue University, Endorsed by the National Kidney Foundation of USA

Jan 2023 – May 2023

West Lafayette, IN

- Developed a Flutter app, enabling precise nutrient tracking and personalized recommendations using Firebase.
- Worked on Firebase Functions and implemented push notifications, projected to boost retention by 30%.
- Gained hands-on experience in teamwork, Agile development, and delivering user-focused app features.

Software Developer (Part-Time)

Jyoti Broking Pvt. Ltd. (Stock Broking House)

June 2023 – Present

New Delhi, India (Hybrid)

- Created a Java desktop client for the NSE India Extranet REST API to manage broker account files.
- Devised a query definition system for downloading lists of files from the file-system API, increasing usability.
- Wrote utility programs to manipulate CSV files and perform margin calculations, saving 10+ hours of daily work.

Undergraduate Teaching Assistant

Computer Science Dept. at Purdue University

Jan 2024 – Present

West Lafayette, IN

- C Programming:** Assisted students in mastering complex programming concepts, data structures, debugging techniques, and adhering to code standards.
- Systems Programming:** Guided students in developing skills in C++, object-oriented programming, Qt, Linux, and Bash scripting. Supported project work, including building a custom Unix shell and an HTTP web server.

PROJECTS

Investify | *React, Redux, RTK Query, Spring Framework, PostgreSQL, AWS*

August 2024 – Present

- Led front-end development for *Investify*, a platform designed for users exploring diverse investment options.
- Developed a responsive, interactive and accessible UI using React, contributing 5000+ lines of code.
- Utilized React hooks and modular components to build an optimized, maintainable and scalable front-end.
- Integrated Redux for global state management and RTK Query for efficient querying and caching.
- Collaborated with the team to design and implement the app, defining entities, relationships, and features, while aligning development efforts to ensure timely delivery of a polished product.

Gesture & Speech Browser Control | *Python, OpenCV, Concurrency*

Jan 2023

- Engineered a Python app and Chrome extension to invoke browser actions (navigation, scrolling) via hand gestures and voice commands, integrating video (OpenCV) and speech (PocketSphinx) concurrently using multiprocessing.
- Used MediaPipe to track fixed landmark points on the human hand and mapped them to specific gestures.
- Established real-time communication between the Python app and Chrome extension via web-sockets.