Rahul Baragur

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EDUCATION

Michigan State University   Aug. 2021 – May. 2025
Bachelor of Science in Computer Science | GPA: 3.85/4.0   *East Lansing, MI*
- Involvement: MSU AI Club, Spartahack Hackathon, Kappa Sigma
- Relevant Coursework: Python and C++, Data Structures and Algorithms, Object Oriented Programming, Algorithm Engineering, Discrete Structures, Computer Organization and Architecture, Database Systems

EXPERIENCE

Software Engineer - Ford Motor Company   Sep. 2025 – Present
Python, APIs, JIRA, C++, Java, Android Studio   *Dearborn, Michigan*
- Contributing to the design and development of **Infotainment** application prototypes on the Digital Product Lab team
- Engineered two automation scripts using **Python** to automate test cases for the Battery Energy Control Module, covering the full lifecycle from concept design to production integration.

Software Engineer Intern - Ford Motor Company   June. 2024 – August. 2024
Java, Groovy, C, AUTOSAR, APIs, JIRA, CI/CD, Agile   *Dearborn, Michigan*
- Developed a **full-stack** internal tool within an **Agile** framework to automate the generation of an **ECU** run-time environment, saving over **70%** of manual processes
- Implemented 2 production-ready Battery Electric Control Module communication features using **C** and the **AUTOSAR** architecture, integrated within a **CI/CD** pipeline managed through **JIRA**
- Spearheaded migration from **BTC** to **Simulink** Test, implementing over **100 end-to-end** test cases to ensure high code quality and reliability

Software Engineering/Product Management Intern - Acsia   May. 2023 – August. 2023
C, AUTOSAR, Polarion, APIs   *Bangalore, India*
- Developed over **400** system, software and electrical requirements for a **multi-million** dollar project
- Collaborated with the Functional Safety team to analyze diagnostic trouble codes distributed by the **ECU** via **CAN**
- Streamlined work protocols by managing meeting minutes, bug trackers, and adhering to **Agile** and **ASPICE/ISO 26262**, achieving deadlines **50%** faster.

PROJECTS

Compartmental Modeling System | *C++, Qt*
- Built a graphical simulation system that allows users to create and analyze compartment-based models with customizable transfer dynamics using differential equations.
- Integrated a **Qt**-based **GUI** for compartment visualization, interactive editing, and time-based simulation with real-time graphing and data export.
- Ensured cross-platform compatibility across Windows, Linux, and macOS through Qt's framework and portable C++ design.

Ecosnap (Android application) | *Java, Firebase, Google OAuth, Vision API*
- Built a camera-based mobile app that analyzes captured images to determine item recyclability using Google's **Vision API**.
- Integrated **Firebase** for backend data storage, authentication via Google **OAuth**, and global leaderboards for users to track and compare recycling activity.
- Designed a user-friendly interface to promote sustainability through interactive and gamified recycling awareness.

TECHNICAL SKILLS

Languages: Python, C, C++, Java, Groovy, JavaScript/TypeScript, HTML/CSS, SQL
Frameworks: React, React Native, Node.js, Next.js, TailwindCSS, Flask
Developer Tools: PyCharm, VSCode, VIM, CLion, IntelliJ, Git, Github, Android Studio, Notepad++, Beyond Compare, DaVinci Configurator
Libraries: pandas, NumPy, Matplotlib, Pusher, Streamlit, Prisma