Soham Jain

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Education

Carnegie Mellon University **May 2027**
B.S. in Computer Science; Minor in Machine Learning *Pittsburgh, PA*

- **Relevant Courses:** Data Structures and Algorithms, Computer Systems, Functional Programming, Discrete Math, Linear Algebra, Multivariable Calculus, Artificial Intelligence, Machine Learning, Computer Vision, Mobile and Web Application Development

Technical Skills

Languages and Operating Systems: Python, Java, C, C++, JavaScript, HTML/CSS, TypeScript, Rust, SQL, MATLAB, Linux/Unix, macOS
Developer Tools: Git, Docker, Vim, Amazon Web Services (AWS) EC2, MongoDB, Google Cloud, Firebase, Android Studio, PostgreSQL
Libraries & Frameworks: React, Vite, Express, Node.js, Next.js, Flask, NumPy, Pandas, TensorFlow, PyTorch, Keras, OpenCV

Work Experience

ScottyLabs **Aug 2025 – Present**
Software Engineer *Pittsburgh, PA*

- Utilizing **React, TypeScript**, and **Railway** to integrate live data from CMU Dining Services into an app that streamlines menus and specials for **10,000+ monthly users**.
- Leading the integration of a geospatial routing system with **Rust** and **REST APIs** to sort campus dining locations by walking distance.

Vytal.AI **May 2022 – Dec 2024**
Software Developer, Machine Learning Engineer *Alexandria, VA*

- Used **Flask, Next.js**, and **MongoDB** to develop a quantitative brain health assessment app via novel eye-tracking software at Venture Capital-backed startup.
- Optimized **Python** biometric pipelines and deployed ML models on **AWS EC2** to scale testing to **300+ clinical beta users**.

Virginia Polytechnic Institute **April 2024 – May 2025**
Computer Science Research Intern *Blacksburg, VA*

- Designed quantum-classical hybrid algorithms with **Python** and **MATLAB** to address graph coloring and other boolean SAT problems, **reducing computation costs by up to 65%** compared to leading models.

Projects

RoutineRemind **June 2022 – Present**

- Developing a **patent-pending** app with **JavaScript, HTML**, and **Firebase** to create personalized schedules for children with autism.
- Scaling product to **200+ active users** through clinical partnerships and integration in local schools.
- Selected **first place in the Congressional App Challenge (top 4%)**; demoed app at Capitol Hill.

EyeLS **Aug 2023 – Sep 2025**

- Constructed a gaze-tracking application that maps eye movements to click locations with **92% calibration accuracy**, enabling patients with neurodegenerative disorders like ALS to communicate nonverbally while **saving over $15,000 annually**.
- Granted research stipend and **Technical Excellence Award** from IEEE (top 3 out of 300+ projects).

Research & Publications

A Transformer-Based Approach to Diagnose ALS via EEG Analysis **Feb 2025**
17th International Conference on Advanced Computer Theory and Engineering

LapseNet: A Hybrid CNN-LSTM Approach for Accurate and Efficient Vision-Based Fall Detection **Nov 2024**
6th International Conference on Robotics and Computer Vision

- Recognized with **IEEE Best Presentation Award** (top 1.5% of 500+ participants).

ConVox: A Deep Learning Approach for Accurate Multilingual Voice Disorder Detection **Aug 2024**
5th International Conference on Big Data, Artificial Intelligence and Internet of Things Engineering

RexDash: A Technical Dashboard for Analyzing Replica Exchange Molecular Dynamics Simulations **Oct 2023**
Journal of Student-Scientists' Research (George Mason University Computer Science Internship)