

# Soham Jain

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## Education

### Carnegie Mellon University

B.S. in Computer Science; Concentration in Machine Learning

May 2027

Pittsburgh, PA

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

## Technical Skills

**Languages & Operating Systems:** Python, Java, C, C++, JavaScript, HTML/CSS, TypeScript, Rust, SQL, MATLAB, Linux/Unix, macOS

**Developer Tools:** Git, Docker, Vim, AWS, Azure, MongoDB, Google Cloud, Firebase, Android Studio, GitHub, PostgreSQL

**Libraries & Frameworks:** React, Vite, Express, Django, Node.js, Next.js, Flask, NumPy, Pandas, TensorFlow, Keras, OpenCV

## Experience

### ScottyLabs

Software Engineer

Aug 2025 – Present

Pittsburgh, PA

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

### Vytal.AI

Software Developer and Machine Learning Engineer

May 2022 – Dec 2024

Alexandria, VA

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

### Virginia Tech Computer Science Department

Research Intern

April 2024 – May 2025

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.

### George Mason University Machine Learning Lab

Research Intern

June 2023 – Mar 2024

Fairfax, VA

- Built the first Flask and HTML dashboard to standardize metrics for analyzing molecular dynamics simulations' performance.
- Published paper as first author in Journal of Student-Scientists' Research.

## Projects

### RoutineRemind | React, JavaScript, TypeScript, Python, HTML/CSS, Firebase

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**; demoed app at Capitol Hill.

### EyeLS | JavaScript, HTML/CSS, Python, TensorFlow, OpenCV

Aug 2023 – Sep 2025

- Constructed a gaze-tracking application that maps eye movements to click locations with **92% calibration accuracy**.
- 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: Hybrid CNN-LSTM Approach for Accurate & 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