Soham Jain

(240) 728-8946 sohamj@andrew.cmu.edu sjain2025.github.io linkedin.com/in/soham-jain1 github.com/sjain2025

Education

Carnegie Mellon University **December 2027**
Bachelor of Science in Computer Science *Pittsburgh, Pennsylvania*

- **Concentration:** Machine Learning
- **Relevant Courses:** Data Structures and Algorithms, Artificial Intelligence, Applied Machine Learning, Discrete Math, Linear Algebra, Multivariable Calculus, Computer Vision, Mobile & Web Application Development, Research Statistics, Physics, Biology, Psychology

Technical Skills

Languages: Python, Java, C++, C/C0, JavaScript, SQL, HTML/CSS, TypeScript, Q#, LaTeX
Developer Tools: Git, Vim, VS Code, MongoDB, Google Cloud, AWS, Azure, Firebase, Jira, Android Studio, Jupyter Notebook, Figma
Libraries & Frameworks: React, Node.js, Next.js, Flask, PostgreSQL, NumPy, Pandas, TensorFlow, PyTorch, Keras, Scikit-learn, OpenCV

Experience

Vytal.AI **May 2022 – Dec 2024**
Software and Machine Learning Engineer *Alexandria, Virginia*

- Used OpenCV and React Native to develop a smartphone AI application that quantifies brain health via novel eye-tracking software in **30-second evaluations** at VC-backed startup.
- Optimized Python biometric pipelines and deployed ML models on AWS EC2 to scale testing to **300+ clinical beta users**.
- Created head-gaze detection algorithm with YOLOv8 that achieved **15% higher accuracy** than previous models.

Virginia Tech Department of Computer Science **April 2024 – May 2025**
Computer Science and Quantum Computing Researcher *Blacksburg, Virginia*

- Spearheaded research with Dr. Atul Mantri on applying Grover's algorithm to solve boolean SAT problems in Qiskit and Q#.
- Used MATLAB and Python to develop a quantum-classical hybrid algorithm to solve the graph coloring problem on a map of the 50 U.S. states, **cutting computational cost by 65%** compared to classical recursive methods.

Projects

RoutineRemind **June 2022 – Present**

- Developed provisional patented scheduling app for individuals with speech and cognitive disabilities
- Deployed on Google Play and App Store; selected by U.S. Representative Jennifer Wexton

CMUEats **Aug 2025 – Present**

- Something

EyeLS **August 2023 - Present**

- Project description

Research & Publications

LapseNet: A Hybrid CNN-LSTM Approach for Accurate and Efficient Vision-Based Fall Detection
6th International Conference on Robotics and Computer Vision (ICRCV)

- Designed a lightweight neural network model to detect indoor falls with **99%+ accuracy** in training and testing
- Earned the **IEEE Best Presentation Award** for exceptional oral and poster presentation (**top 1.5%** of 500+ participants)

A Transformer-Based Approach to Diagnose ALS via EEG Analysis
17th International Conference on Advanced Computer Theory and Engineering (ICACTE)

- First-author on paper introducing a Transformer to diagnose ALS in two minutes

RexDash: A Dashboard for Analyzing the Performance of Replica Exchange Molecular Dynamics Simulations
Journal of Student-Scientists' Research

- First-author publication with Dr. Christopher Lockhart at George Mason University

Leadership

Youth International Digambar Jain Organization **February 2022 - Present**
President and Co-Founder

- Leadership achievement or responsibility