Soham Jain

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Links

Personal Website
LinkedIn
GitHub
Devpost

Test Scores

36 ACT (Superscore)
National Merit Semifinalist
AP Scholar with Distinction

Courses

Machine Learning
Artificial Intelligence
Computer Vision
Mobile/Web App Development
Comp Systems Research Lab
Multivariable Calculus
Linear Algebra
AP Computer Science

Skills

Leadership
Adaptability
Communication
Critical Thinking
Problem-Solving
Creativity

Programming Languages

Java	C++
Python	HTML/CSS
JavaScript	Q#
SQL	TypeScript
MATLAB	R

Hobbies

Content Creation
Website Design
Journalism
Photography

Languages

English • Proficient
Spanish • Proficient
Hindi • Proficient

Profile

Ambitious student with a passion for computer science, business, and research. Leveraging interpersonal skills and technical proficiency to innovate solutions that drive positive change in the STEM community.

Education

Thomas Jefferson High School for Science and Technology | Alexandria, VA
August 2021 — Present

4.491 Weighted GPA | 4.0 / 4.0 Unweighted GPA

Research and Publications

RexDash: A Comprehensive Dashboard for Analyzing the Technical Performance of Replica Exchange Molecular Dynamics Simulations

Spearheaded machine learning and replica exchange molecular dynamics research with Dr. Christopher Lockhart at George Mason University. First-author publication in Journal of Student-Scientists' Research.

LapseNet: A Hybrid CNN-LSTM Approach for Accurate and Efficient Vision-Based Fall Detection

First-author publication for voice disorder diagnosis paper in the 6th International Conference on Robotics and Computer Vision. Received Best Presentation Award for exceptional oral presentation of paper.

EyeLS: A Novel, Accessible Gaze-Tracking Application to Revolutionize Non-Verbal Communication for Patients with Neurodegenerative Disorders

Awarded $5.000+ by IEEE, US PTO, NoVa Dental Society, and The Aerospace Corporation for creating an eye-tracking communication device for ALS patients. Partnering with ALS Association to conduct testing and gather user feedback.

A Transformer-Based Approach to Diagnose Amyotrophic Lateral Sclerosis via Electroencephalogram Analysis

First-authored independent research paper on diagnosing ALS in two minutes. Accepted into the 17th International Conference on Advanced Computer Theory and Engineering. Delivered oral presentation.

ConVox: A Robust Deep Learning Approach for Accurate Voice Disorder Detection with Multilingual Capabilities

First-authored paper accepted in the 5th International Conference on Big Data, Artificial Intelligence and Internet of Things Engineering. Constructed a model capable of diagnosing voice disorders in three different languages.

Work Experience

Quantum Computing and Computer Science Researcher, Virginia Tech | *April 2024 - Present*

Lead a team of ten undergraduate students under Dr. Atul Mantri. Spearheading research publication on graph coloring with Grover's Algorithm. Conduct literature reviews to identify gaps in current research.

Machine Learning and Software Engineer, Vytal.AI | *May 2022 - November 2023*

Developed NeurOS, a smartphone AI application that quantifies brain health using novel gaze-tracking algorithms. Helped design a scalable business model, successfully securing $1.2 million through seed investments ($12.5 million valuation).

Activities

Captain (12) and Recruitment Director/Webmaster (11), TJ Congressional Debate

Facilitate weekly meetings and oversee logistics following coach's retirement. Lead team with 140+ TOC Bids and 30+ national finalists. Mentor and recruit underclassmen. Direct annual fall and winter in-house tournaments.

President and Co-Founder, Youth International Digambar Jain Organization

Teach Jain principles like *ahimsa* (non-violence) and peace through educational programming. Raised over $25,000 for reconstructing temples across Virginia. Direct youth community service initiatives. Manage website.

Honors and Awards

Congressional App Challenge Winner from VA-10

Selected as first place by U.S. Representative Jennifer Wexton for developing RoutineRemind, a patent-pending scheduling application for individuals with speech and cognitive disabilities. Featured on House.gov and dozens of national and local news outlets with a total audience of 150,000+. Deploying a mobile app on Google Play and the App Store.

5x Devpost Hackathon Winner

Awarded $1,500+ in prizes for international hackathon wins. AI for Humanity Grand Prize, High-School Hacks First Place, HackTJ Red Cross Challenge Winner, MecSimCalc Win, OakHacks 2nd Place. Competed in 30+ hackathons.

Meta Hacker Cup Round 2 Qualifier

Ranked within the top 10% internationally and #139 in the US while competing against 20,000+ software developers and computer science enthusiasts.

Congressional Debate: Tournament of Champions Qualifier, Virginia State Finalist, DC Metro Finalist, Yale Semifinalist, GMU Patriot Games Semifinalist, Harvard Octofinalist.