

HASSAAN VANI

Clifton Park, NY | hassaan.vani1@gmail.com | Hassaanvani.com

EDUCATION

Shenendehowa High School | Clifton Park, NY | Expected graduation: June 2027

Rank: 2/733 weighted; 4/733 unweighted | **GPA:** 102.831 weighted; 98.800 unweighted

SAT: 1560 superscore (800 Math, 760 Reading/Writing); 1550 best single sitting | **AP:** 13 exams scored 5

College coursework: Siena University dual enrollment, PHYS-110 General Physics 1 (4 credits); Calculus III.

SELECTED PROJECTS AND RESEARCH

Chem-Color-Analysis | Skidmore Collaboration

Grades 10-12 | 5.5 hr/wk, 52 wk/yr

Built colorimetry software used in Skidmore's CH 232 Analytical Chemistry course and high school Chemistry Club; collected 3,000+ chip values to train partial least squares models.

Jeff.ai | Founder and Developer

Grades 11-12 | 2.5 hr/wk, 30 wk/yr

Built an AI exam-preparation platform used by 50+ students for teacher-specific practice exams; generated practice anticipating two Physics II final questions and shared Calculus III tests.

ALICE | Robotics Developer

Grades 11-12 | 2.5 hr/wk, 52 wk/yr

Engineered a robotic-arm system with 17 object classes, 14 control protocols, voice interaction, and 3D mapping; developed 800+ automated tests for its software.

The Terrarium | Developer

Grades 11-12 | 2 hr/wk, 26 wk/yr

Ran a six-month computational-finance experiment using multi-agent reinforcement learning simulations to study market dynamics; built evolving strategies, risk controls, and transaction records.

MARTE | Relativistic Physics Simulation

2026

Developed a Python/NumPy trajectory solver to simulate relativistic spaceflight, applying Lorentz transformations and numerical integration to compare travel times across reference frames.

Computational Economics | Independent Research

2026

Investigate market-determined interest rates through agent-based simulations, comparing language-model agents with deterministic baselines to study banking, credit spreads, and inflation shocks.

SOFTWARE EXPERIENCE AND TEACHING

Hanley's Hood | Volunteer Web Developer

Grades 10-12 | 7 hr/wk, 52 wk/yr

Built my computer science teacher's course website, used by 100+ students to access Java and AP Computer Science A materials; created 10+ volunteer websites overall.

Software Consulting | Paid Developer

Grades 10-12 | 11.5 hr/wk, 52 wk/yr

Consult for Friends with Kings; completed database-migration and backend work for a chess platform, built nonprofit True Companion's website, and advised online storefronts on backend development.

Coding Caravan | Co-Founder and Lead Instructor

Grades 10-12 | 7 hr/wk, 48 wk/yr

Taught Scratch, Python, and web development to 50+ K-5 students; expanded volunteer outreach into paid instruction serving at least five students and built supporting web infrastructure.

LEADERSHIP AND COMPETITIONS

Debate | Public Forum Captain and Secretary

Grades 10-12 | 4 hr/wk, 45 wk/yr

Two-time NCFL Grand National Tournament competitor (2025, 2026); mentor 20+ younger debaters, plan lessons, and lead practices in research, argumentation, and public speaking.

Science Bowl | Captain and Physics Specialist

Grades 9-12 | 2 hr/wk, 35 wk/yr

Captained the school's first team to reach double elimination and finish second at New York regionals; coached younger students in science competition preparation.

Siena High School Programming Competition | Competitive Programmer

2026

Earned third place in the Gold Division; collaborated on timed programming problems using graph traversal, dynamic programming, and greedy algorithms.

HONORS AND TECHNICAL SKILLS

Honors: AP Scholar with Distinction; New York Math League school top scorer; RIT Science and Math Award.

Development: Python, Java, C++, TypeScript/JavaScript, SQL; React, Next.js, OpenCV, Git, Linux, Docker.

Agentic AI: Extensive use of Claude Code, Codex, and Antigravity for development, debugging, and testing; local DeepSeek models for long-list comprehension.