

Samyak Jain

Bellarmine College Preparatory, Class of 2027 • Los Gatos, CA
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ACADEMIC INTERESTS

Neuroscience, medicine, biomedical signal processing, and pre-med.

EDUCATION

Bellarmine College Preparatory — San Jose, CA

- High School Diploma Candidate, Class of 2027
- Academic GPA: 3.875 | Weighted GPA: 4.281 | ACT: 36 Composite, 36 STEM (single test)
- AP Examinations: Calculus AB (5), Calculus BC (5; AB Subscore: 5), Biology (5), Computer Science A (4), English Literature and Composition (4)

CLINICAL SHADOWING EXPERIENCE

Physician Shadowing *Summer 2026*

- Dr. Gurpreet Sarao — Internal Medicine, Sutter Health (8 hours)
- Dr. Mona Sane — Ophthalmology (8 hours)

RESEARCH & ACADEMIC EXPERIENCE

Pupil Tracking and Spiking Neural Network Modeling of Horizontal Nystagmus — *Solo-authored*

- Extended prior pupil-tracking methodology to model horizontal nystagmus dynamics using a spiking neural network.
- Accepted to BMES High School Conference, 2026

Pupil Dynamics in Nystagmus Using Computer Vision and Signal Processing — *Solo-authored*

- Applied computer vision and signal processing to quantify horizontal nystagmus from video-based pupil tracking.
- Accepted to American Journal for Young Scientists
- Accepted at SCCUR 2025
- Presented at BMES High School Conference, October 2025
- Special Mention / Honorable Mention, RRI Biological Science & Engineering, Synopsys Science Fair

Distinct EEG Spectral Signatures Differentiate Alzheimer's Disease, Frontotemporal Dementia, and Controls — *Co-authored*

- Analyzed EEG spectral biomarkers to distinguish Alzheimer's disease, frontotemporal dementia, and healthy controls.
- Accepted to American Journal for Young Scientists
- Presented at BMES High School Conference, October 2025

Summer Research & Clinical Programs *Summer 2026*

- Stanford CNIX — Selected participant; neuroscience research program
- Stanford CASP — Selected participant; clinical exposure program
- John Hopkins 2026 Global Health Leaders Conference — Selected participant; global health and medicine program

SELECTED COURSEWORK & PROGRAMS

- De Anza Community College — General Psychology, 4 quarter units, Grade: A / 4.0
- Johns Hopkins University Summer at Hopkins — Applications of Chemistry in Medicine
- Decode Life — AI & Computational Biology Bootcamp, Summer 2025
- Udacity Nanodegree Coursework — Deep Learning; AI Programming with Python, Summer/Fall 2024

COMMUNITY SERVICE

Christian Service Program *2022–Present*

Bellarmino College Preparatory

- Supported elderly populations with daily tasks and social interaction.
- Packed food boxes with fruits and essentials for families in need.
- Tutored elementary school students.

HONORS & DISTINCTIONS

- Special Mention / Honorable Mention, Synopsys Science Fair — RRI Biological Science & Engineering
- American Journal for Young Scientists — Two research acceptances
- BMES High School Conference — Two research presentations
- SCCUR 2025 — Research acceptance
- ACT 36 Composite / 36 STEM

TECHNICAL SKILLS

Python • Computer Vision • Signal Processing • Data Analysis • Machine Learning • Scientific Writing

EXTRACURRICULAR ACTIVITIES

Competitive Fencing (Épée) *2019–Present*

- USA Fencing A-rated fencer; ranked among the Top 20 U.S. Cadet fencers nationally, peaking at #11.
- Multiple national podium finishes, including a national gold medal in Cadet Team Épée (November 2025 NAC).
- Selected to Team USA; represented the U.S. at all three Cadet World Cups in the 2025–26 season (Klagenfurt, Budapest, Kraków).

Clubs: Sports Medicine Club, Speech & Debate Club, Economics Club, Pre-Med Club