

# Aaryan Samanta

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## Summary

- **Lead author** of peer-reviewed AIAM 2025 international conference paper (*Quantum-Inspired GA-GNN Ensemble* for multimodal classification); <1% of U.S. high schoolers publish in AI venues.
- Achieved **dual perfect scores** in USACO 2025 US Open (**Gold/Silver**, 1000/1000); 1 of 8 U.S. high schoolers nationwide.
- USACO 2025 US Open: **Dual Perfect Scores** (Gold & Silver, 1000/1000); 1 of only 8 U.S. high schoolers nationwide.
- AMC 10 & 12 **National 1st Place Perfect Scores** (150/150); 2x AIME qualifier
- **Founder & President** of **AI Ethos, Inc.** (501(c)(3)) and **NextGenAI International**; scaled ethical AI education to 75+ students across 3 countries.
- SAT **1570** (800 Math) | GPA **4.0** UW / **4.67** W | UCSB Summer Research Academy **youngest scholar**.

## Areas of Interest

- Artificial Intelligence
- Quantum Computing
- Machine Learning
- Competitive Algorithms
- Graph Neural Networks
- Bioinformatics
- Ethical AI
- Healthcare AI

## Education

- **Legend College Preparatory**, Cupertino, CA, 10th Grade, Class of 2028
- APs: 3 Completed (all 5s), total 25 planned by graduation
- **GPA: 4.67** Weighted, **4.0** Unweighted
- **SAT: 1570 (800 Math)**

## Research & Publications

- **Lead Author, AIAM 2025 International Conference Publication, Nov'25:** *Quantum-Inspired Hybrid Genetic Algorithm and Graph Neural Network Ensemble for Multimodal Classification*; peer-reviewed proceedings.
- **UCSB Summer Research Academy Scholar, Jul'25:** Youngest accepted (top ~10% rate); capstone *Resetting the Clocks: Mitochondrial Quality Control via Genetic Adaptation*; submitting to IJHSR.
- **AI Research Intern, Legend College Prep AI Lab, Jun'25:** Built CNN for pneumonia detection from chest X-rays (>90% accuracy); developed full pipeline (preprocessing, augmentation, training, evaluation).
- **Research Scholar, Legend College Prep AI Lab, Sep '25:** Disease-Symptom Demographic EDA; applied ML/statistical analysis to patient data, identified demographic correlations, and built public-health visualizations.

## Awards & Honors

- **Lead Author, AIAM 2025**, Peer-Reviewed Proceedings (International Conference AI & Advanced Manufacturing)
- **USACO 2025 US Open Dual Perfect Scores** (Gold & Silver, 1000/1000); top ~0.1% globally.
- **AMC 10 & 12 National 1st Place Perfect Scores** (150/150); 2x AIME Qualifier.
- **UCSB Summer Research Academy Scholar** – Youngest accepted (top ~10 % admission rate).
- **NSHSS National Scholar** (Top 1% Academic & Leadership Recognition).

## Leadership & Global Impact

- **Founder/President, AI Ethos, Inc. (501(c)(3))** • 2025–Present: Directed ethical AI bias mitigation workshops for 75+ students across 3 countries; promoted equitable AI access.
- **Founder/President, NextGenAI International** • 2025–Present: Built international student organization with 50+ members; hosted international seminars expanding global student network.
- **Founder/Chief, Global AI Ambassador** • 2025–Present: Created first ever high school Global AI ambassador role; collaborated with educators and principals in Taiwan and the U.S. to advance responsible AI adoption.
- **Co-Captain, Cupertino Junior Olympiad Math/CS Team** • 2024–Present: Mentored 20+ peers to AIME/USACO Gold qualifications.
- **Volunteer Team Leader, VA Palo Alto Health Care** • 2024–Present: Directed audits of 50+ elderly medical images; standardized AI-assisted diagnostic workflows.

## Additional Distinctions

- **Track & Field JV Anchor**, MVHS Matadors: Set all-time 9<sup>th</sup> grade school records (100m: 11.75s); Rookie of the Year; League Champions
  - **Percussion Section Leader**, MVHS Concert Band: Directed 10-member section to Unanimous Superior & Perfect Score, CMEA Festival.
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## Technical Proficiency

- **Languages:** Python (PyTorch, TensorFlow, NumPy, Pandas, scikit-learn), Java, JavaScript
  - **Domains:** Graph Neural Networks, Genetic Algorithms, CNNs, Bioinformatics, Ethical AI
  - **Tools:** MATLAB, Git, LaTeX, Linux
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## References

- [Dr. Tian Yishuai](#), Postdoctoral Fellow, Tsinghua University & Research Element, Nanjing University
  - [Laurence Dang](#), Dean of Academics, Chair, Dept. of Mathematics and Sciences, Legend College Preparatory
  - [Carlos Febrero](#), AI Expert & Mentor, Computer Science Instructor, Legend College Preparatory
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## World Language Proficiency

- **Spanish:** AP Spanish Level
- **Bengali:** Beginner Level