SHREYAS NATHANI

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Mathematics applicant with mentored research in computational number theory and elliptic curves, alongside applied work in machine learning

EDUCATION

CHIREC International School | Graduating 2027

- IB Diploma Programme (Grades 11–12); IGCSE (Grades 9–10)
- Intended major: Mathematics
- IB Diploma: 41/45
- IGCSE: 80% or above in all nine subjects; ranked among the top 15 of 110 students
- SAT: 1560 (Math 800, Reading & Writing 760), September 2026
- AP Calculus BC: 5

RESEARCH

Mathematics Research | CR Rao AIMSCS / School of Mathematics, University of Hyderabad

May 2025–Present

- Investigated fast integer multiplication, focusing on the Schönhage–Strassen algorithm and Number Theoretic Transforms (NTTs); tested approaches in Python and SageMath and developed an optimised method with biweekly faculty-mentor meetings.

Mathematics Research | RISE Research Initiative

June 2026–Present

- Began a mentored project in computational and applied mathematics focused on elliptic curves; developing a research question toward a planned paper.
- Submitted for publication to the Oxford Journal of Student Scholarship

Research Program Participant | AI in Modern Science

June 2026 | 4 weeks

- Developed a capstone Graph Neural Network that represents molecules as graphs and uses deep learning to predict molecular toxicity.

MATHEMATICS PROGRAMS & COURSES

Research Program Participant | LSU Virtual Math Research Collaboration

Jan–Feb 2026 | 6 weeks

- Worked with international peers and PhD mentors to formulate conjectures, develop proofs in LaTeX, contribute to a group investigation, and present final results.

Program Participant | UC San Diego – Python and Mathematics for Machine Learning

- Studied Python and mathematical foundations of machine learning, including linear algebra, calculus, and statistical modelling.

Program Participant | PACT – Program in Applied Combinatorial Thinking

June–July 2026 | 6 weeks

- Explored combinatorics, counting, logic, and proof-based reasoning through structured problems and collaborative discussion.

Program Participant | Math.biz Camp, Mahindra University, Hyderabad

June 2026 | 10 days

- Studied probability, mathematical modelling, and quantitative methods in finance.

Program Participant | IIT Madras – Math Unplugged

Jan–Mar 2026

- Explored graph theory—including nodes, edges, paths, and connectivity—through interactive games and puzzles.

PROJECTS, LEADERSHIP & ACTIVITIES

AI Project Developer | 1M1B Foundation – AI News Bias Project

Feb 2026–Present

- Designed an AI-based news-bias detection tool combining natural language analysis and machine learning to identify bias patterns and differences in news framing.

Co-Founder & Band Leader | CHIREC International School Band

Grades 9–12

- Co-founded and led a student band, recruiting and training musicians through weekly rehearsals and directing 10+ performances annually.
- Performed as a guitarist at school and city events, including the Hyderabad Runners Meet for 10,000+ attendees; received a repeat invitation.

HONORS & AWARDS

- Euclid Mathematics Contest, University of Waterloo — Certificate of Distinction (2026)
- Hong Kong International Mathematical Olympiad (HKIMO) — Silver Medal (2026)
- IGCSE Academic Distinction — 80%+ in all nine subjects; top 15 of 110 students
- HPS Literary Fest Debate — First Prize for debate on Shakespeare's Macbeth (2025)

COMMUNITY SERVICE

SAT Math Peer Tutor | Schoolhouse

March 2026 | 15 hours over 4 weeks

- Tutored three students in SAT Math; prepared targeted lessons and practice problems and adapted instruction to individual learning gaps.

SKILLS

- Technical: Python, SageMath, LaTeX; machine learning (Graph Neural Networks, natural language analysis)
- Mathematics: Calculus, linear algebra, number theory, elliptic curves, combinatorics, graph theory, probability, proof writing