

Shaoyu (McQueen) Xu

IB Diploma Candidate · Class of 2027 — Mathematics & Physics HL
Shanghai World Foreign Language Academy, Shanghai, China
Email: xushaoyu111@163.com · Math video channel:  Navigating the Sea of Math

EDUCATION

Shanghai World Foreign Language Academy — IB Diploma Programme, Grade 12 (2024 – present). **HL:** Mathematics, Physics. **SL:** English B, Chinese, Biology, Economics. IB total score grew from 29/42 (first semester of full English-medium instruction) to **35/42**, recognized with a formal school commendation for progress.

UC Berkeley Pre-College Scholars, Summer 2026 — completed **MATH 53** (Multivariable Calculus) and **MATH 16B** (Calculus) with university credit.

TOEFL iBT — 107

RESEARCH EXPERIENCE

Digital Twin Zebrafish Brain Project — Independent Researcher
Advisor: Associate Professor Nan Zhang, Fudan University

- Apply Bayesian hierarchical models and ensemble Kalman filters to simulate neural dynamics from zebrafish calcium-imaging data — building toward a "digital twin" of a small brain.
- Oral presentation selected at **ICIBM 2026** (14th International Conference on Intelligent Biology and Medicine), Buffalo, NY — "Future Scientist in AI" session.

Sports Analytics Research — ongoing independent project

- Applying statistical modeling and data science to basketball performance analysis: collecting and cleaning player-tracking data to build predictive models for shooting efficiency and defensive impact.

LEADERSHIP & ACTIVITIES

Founder & Lecturer —  Navigating the Sea of Math (IB CAS initiative)

- Produced 40+ systematic math tutorial videos (calculus, algebra, functional analysis) with 100,000+ views and 1,000+ followers; expanding the channel to YouTube for international viewers.
- Delivered offline math lectures through the school math club, covering calculus, competition problems, and syllabus topics.

Student Lecturer — Fudan University ISTBI (Institute of Science and Technology for Brain-Inspired Intelligence)

- Invited to give math lectures to middle-school students at Fudan University.

Head Coach — Girls' Varsity Basketball Team (official one-year appointment, 2026–27)

- Lead training, tactical planning, and player development; guided the team to 4th place in a city-wide competition among 30+ schools.

Team Captain & Varsity Player — Boys' Basketball

- Captained the class team to the Grade-11 league championship (2026); league Best Player award; Grade-10 MVP voting runner-up.

HONORS & AWARDS

AMC 12 — 144/150, Distinguished Honor Roll (top 5% globally)	2026
AIME — 9/15, invitational qualifier	2026
CCL (Continental Calculus League) — National Gold Award, 38/40	2026
Huanya International Math Invitational — First Prize	2024
HiMCM (Mathematical Contest in Modeling) — Honorable Mention	2025
Chinese Go Association — Amateur 4-Dan; Yangpu District Go Championship First Prize	2016–25
Fudan Group Essay Competition — First Prize	2023
School Robotics Competition — Second Prize (welding & mechanical assembly)	2025
WFLA Formal Commendation — IB progress 29 → 35	2025

SKILLS & INTERESTS

Mathematics: advanced calculus, proof-based discrete mathematics, probability & statistics, Bayesian inference ·
Programming (self-taught): Python (Pandas), MATLAB · **Tools:** LaTeX, Overleaf, Excel
Interests: Go (amateur 4-dan), basketball strategy, sneaker technology research, science communication, sailing