

Jayden Shi

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EXPERIENCE

Casual Academic

Sep. 2025 – Present

UNSW Engineering

Kensington, NSW

- COMP3121 (Algorithm Design and Analysis) and COMP4128 (Programming Challenges) lab demonstrator.
- Contributed to the design of new algorithmic problem sets and authored accompanying solutions.

Prosperity 4

Apr. 2026 - Apr. 2026

IMC Trading

Martin Place, NSW

- Finished **1st** in Asia and **3rd** globally out of **18,000+** teams in IMC's flagship algorithmic trading competition.

Various Discovery Events

Sep. 2024 – Sep. 2025

Susquehanna International Group, Optiver, Citadel Securities

Sydney, NSW

- Invited to selective insight programs at SIG, Optiver and Citadel Securities to learn more about the world of quantitative trading.
- Developed a Python trading bot at Optiver's discovery event that ranked **1st** out of 18 teams, leveraging market making strategies to capitalise on pairs trading setups.

PROJECTS

Polyshark (Polytopia Solver) | C++, Python

May. 2026 – Present

- Built an imperfect information game engine for The Battle of Polytopia, combining MCTS with a policy/value network trained via self-play.

Tennis Forecaster | Python

Nov. 2025 – Present

- Developed a full ATP match-forecasting pipeline, transforming raw match statistics into calibrated win-probability predictions, outperforming baseline Elo accuracy by 4.1%.
- Implemented and evaluated alternative player-skill estimators (Kalman filters, paired-comparison models) to test improvements in predictive ability.

Stickshark (Chess Engine) | C++, CuteChess

Jun. 2023 – Present

- Implemented an efficient alpha-beta search featuring transposition tables, SEE heuristics and null-move pruning.
- Engineered an optimised move generation algorithm, leveraging parallelised bit operations to attain 32M moves/s.
- Evaluated engine changes using Elo MLE and SPRT across large self-play experiments.
- Achieved an estimated Elo strength of 2100 across Bullet, Blitz and Rapid time controls.

EDUCATION

University of New South Wales

Feb. 2024 – Aug. 2028

Bachelor of Mathematics (Statistics) / Bachelor of Computer Science

Kensington, NSW

- WAM: 92.4; Scientia Scholar
- Stanford Online: Game Theory - Grade: 100 (2025)
- 1st - Neara x CSESoc Hackathon: Battle of the Bots (2025)
- The Faculty of Science Dean's List (2024, 2025)
- The Faculty of Engineering Dean's Award (2024, 2025)

North Sydney Boys High School

Feb. 2018 – Nov. 2023

High School Certificate

Crows Nest, NSW

- ATAR: 99.90; 8th in State for Mathematics Ext. 2; 100 in Mathematics Ext. 1

TECHNICAL SKILLS

Languages: Python, C/C++

Interests: Chess Programming, Algorithmic Trading, Game Theory, Machine Learning