

MAX HORWITZ

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Engineer and researcher interested in algorithmic decision making - Machine Learning, Optimization, Game Theory, Control - with a strong theoretical and programming background

EDUCATION

University of Washington | GPA: 3.90 Expected Graduation 2028

- Double major in Electrical and Computer Engineering and Mathematics.
- Relevant Coursework (Graduate Coursework in **Bold**): **Advanced Probability**, Linear Programming, **Linear Systems**, **Optimization**, Machine Learning, Group Theory, **Algebraic Combinatorics**
- Spring Coursework: **Learning in Games**, **Reinforcement Learning**, **Robust Control Theory**

Eastside Preparatory School | GPA: 3.80 Graduated 2024

- Took Adv. Programming (DSA and Game Design). Completed two 10-week school-sponsored research projects, on transhuman literature and on the mathematics of cryptography. National Merit Semi-Finalist.

RESEARCH

Upcoming Work - Caltech Summer Research Fellowship (SURF) Summer 2026

- Will spend the summer working on statistical RL with Dr. Yashaswini Murthy and Dr. Adam Wierman.

Ongoing Work - Robust LLM Fine Tuning and Equilibrium Computation Spring 2026

- Currently pursuing two lines of work with Dr. Lillian Ratliff and Jake Gonzales - First will involve algorithm design and working with LLMs, second will be optimization / game theory.

Paper - Strategically Robust Multi-Agent Reinforcement Learning Fall 2025 - Winter 2026

- Work with Dr. Lillian Ratliff, Dr. Eric Mazumdar and Jake Gonzales on Robust Multi-Agent Reinforcement Learning algorithms. Helped write the paper, and wrote code to run simulations.

WXML - Poker and Game Theory Fall 2025

- Selective research program for undergraduates. Designed and wrote software modeling a variant of poker as a sequence of optimization problems. Read up on optimization and game theory

Paper - Discrepancy Theory and Translational Surfaces Summer 2025

- Wrote a paper with Zawad Chowdhury (Advised by Francois Clement) on graphs generated by certain low discrepancy sequences, and their connections to translational surfaces.
- Also presented at NUMS 2025, and wrote visualization software used in presentation and paper

OTHER EXPERIENCE

Competitive Programming Club - Lectures and Practice Winter 2025 - Ongoing

- Attended club meetings, heard lectures and collaborated on challenging problems. Gave a lecture on applications of the Fourier transform

EPS Fusor / BCI - Engineering Teams Fall 2021 - Spring 2024

- Spent the first year working on a team of 15 building a Farnsworth-Hirsch fusion reactor, doing radiation shielding and sensors. Then spent the next two years working on a team of 4 building an electroencephalography headset. Built custom circuitry, wrote software, learned signal processing.

ADDITIONAL INFORMATION

- **Competitive Programming:** Top 0.1% on Project Euler, a competitive programming / mathematics website. Participated in community, wrote up solutions and helped edit peer write ups.