Max Oussoren

(301) 325-7130 | oussoren@stanford.edu | linkedin.com/in/maxoussoren | github.com/maxoussoren

EDUCATION

Stanford University — Palo Alto, CA
Bachelor of Science in Computer Science & Mathematics — *Sep. 2024 – June 2028*
- **GPA**: 4.0 / 4.0
- **Relevant Coursework**: Real Analysis, Probability Theory, Machine Learning, Linear Algebra, Multivariable Calculus, Data Structures & Algorithms.
- **Awards**: AP Scholar with Distinction, Indigenous Recognition Program Finalist.

TECHNICAL SKILLS

Languages: C++, Python, SQL, LaTeX, Java
Libraries/Tools: NumPy, Pandas, Scikit-learn, Git, Excel
Mathematical: Discrete-Time Markov Chains (DTMC), Stochastic Processes, Monte Carlo Simulation, Game Theory
Languages: English (Native), Japanese (Intermediate – Preparing for JLPT N2)

QUANTITATIVE PROJECTS

Discrete-Time Markov Chain (DTMC) State Modeling | *Python, NumPy, Stochastic Processes* — Nov. 2024 – Present
- Developed a spatial simulation engine using Discrete-Time Markov Chains (DTMC) to model the propagation of an agent across a 2D grid.
- Optimized transition calculation via vectorized NumPy matrix operations ($\mathbf{P}_k = \mathbf{P}^k$); reduced runtime complexity by $O(N^2)$ compared to explicit state iteration.
- Decomposed the system into separate movement and survival probability matrices to model state evolution under two independent random variables.
- Applied computational probability theory to calculate the cumulative likelihood of absorption (final state) over T time steps.

Poker AI Decision Engine | *C++, Machine Learning* — July 2025 – Present
- Developing a poker decision-making algorithm in C++ to explore applications of Game Theory.
- Implementing game state evaluation logic and basic strategy optimization based on probability distributions.
- Currently working on integrating reinforcement learning concepts to improve decision accuracy in sequential scenarios.

PROFESSIONAL EXPERIENCE

RE/MAX (Orla O'Callaghan) — Olney, MD
Real Estate Data Analytics Intern — *June 2025 – Aug. 2025*
- Developed pricing optimization models by aggregating and analyzing market data from Redfin, Zillow, and MLS platforms.
- Analyzed market trends and property valuation algorithms to support investment decisions for a $10M+ portfolio.
- Built automated financial tracking systems using API integrations to streamline reporting.

AstraZeneca — Gaithersburg, MD
Summer Intern (Data Science Focus) — *June 2022 – July 2022*
- Assisted in building Python-based data models to organize and analyze clinical trial datasets under the mentorship of senior scientists.
- Gained hands-on experience with data preprocessing, cleaning, and statistical analysis workflows in a regulated environment.
- Collaborated with bioinformaticians to visualize complex analytical findings for technical stakeholders.

American Indian Education Program — Rockville, MD
Mathematics Tutor — *Fall 2019 – Aug. 2024*
- Provided long-term mentorship and academic support in Algebra, Calculus, and Geometry.
- Instructed students on problem-solving strategies to build independence and confidence in mathematical concepts.

LEADERSHIP & GLOBAL EXPERIENCE

Stanford Japan Exchange Conference (SJEC) — Stanford, CA
Academic Officer — *Sep. 2024 – Present*
- Selected to lead academic programming for a student-run conference promoting US-Japan relations.
- Curating research panels and facilitating cross-cultural dialogue between Stanford students and Japanese delegates.

Stanford Climbing Team — Stanford, CA
Financial Officer — *Sep. 2024 – Present*
- Managing annual operating budget for competitive travel, gear acquisition, and team events.
- Overseeing financial transactions to ensure compliance with university funding guidelines.