Jesse Schmolze

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Education

University of Wisconsin, Madison   **Madison, Wisconsin**
B.S. in Economics, Mathematics and Physics   *Graduation May 2027*
GPA: 3.91/4.00
Relevant Coursework: Stochastic Processes, Probability Theory, Econometrics, Machine Learning, Deep Learning, Linear Algebra, Multivariable Calculus, Intermediate Microeconomics, Intermediate Macroeconomics, International Macroeconomics, Money and Banking
Awards: Lorraine A. and W. Dwight Stone Scholarship-$12,000 merit-based award

Quantitative Analysis Experience

Badger Solar Racing Club   **Madison, Wisconsin**
Race Strategy Team Lead   *Apr 2025 - Present*
- Collaborate with engineers to learn the dynamics of solar powered cars and translate my understanding into a Simulink model of our car's performance.
- Developed and solved a system of partial differential equations in MATLAB to model constraints such as air resistance and track conditions, enabling optimized race strategies that improved performance by approximately 10.7%.
- Developing a robust neural network model using reinforcement learning to enhance system generalization across diverse terrains, weather conditions, and race environments, with a focus on improving reliability and performance under varied real-world scenarios.

Federal Reserve Challenge Club   **Madison, Wisconsin**
Head of Communications & Financial Markets Senior Researcher   *Apr 2025 - Present*
- Lead a team of 10 researching how monetary policy changes impacted fixed income assets, currency markets and financial market stability by using 20+ indicators that span from corporate credit spreads to delinquency rates on subprime auto loans.
- Combined our findings with macroeconomic indicators such as GDP growth, jobs added and the PCE to develop fiscal and monetary policy recommendations that I presented to the Federal Reserve in October.
- Created open lines of communication between our club's 7 different sub-teams, which improves efficiency by accelerating the synthesis of different perspectives and leads to more comprehensive risk analysis.

Deep Learning for Time-Inhomogeneous Markov Chain Equity Modeling   **Madison, Wisconsin**
Independent Research Advised by Prof. Alejandra Quintos(Currently In Progress)   *Oct 2025 – Present*
- Building a neural network framework that dynamically updates transition probability matrices for equity price modeling, addressing the known failure of the Markov property in financial markets.
- Integrated daily $JPM price history with macroeconomic and accounting fundamentals (SOFR, VIX, balance sheets, cash flows, income statements) to construct a feature-rich supervised learning dataset.
- Developed an MLP with GELU activation, dropout regularization, Adam optimization, and 113 engineered predictors to classify next-day return states; transitioning toward softmax-based distribution outputs for probabilistic state evolution.

Work & Leadership Experience

Ogborne Capital Management   **San Francisco, California**
Investment Research Intern   *Summer 2026*

Undergraduate Business Law Association   **Madison, Wisconsin**
Founder & President   *Mar 2025 - Present*
- Founded UW-Madison's first undergraduate business law club, which gives 20+ members the opportunity to explore the intersection between business and law through applied case analysis.
- Designed a 13-week curriculum enabling members to debate the legal and ethical implications of financial sector activity across banking, real estate, private equity, and more.
- Spearheaded the merger of UW-Madison's and UCLA's analogous organization to form a nationwide network that expands our reach and gives members access to more professional development events.

Everlight Solar   **Brooklyn Center, Minnesota**
Business Value Creation Intern   *Summer 2025*
- Applied iterative client engagement strategies to convert cold leads into warm appointments that generated over $80,000 in revenue in a six week internship.
- Accelerated residential market customer engagement by refining and delivering solar value propositions to 500+ households.

Skills & Interests

Programming: Java, Python(NumPy, PyTorch, Pandas), Simulink, MATLAB, Stata, Microsoft Office Suite
Interests: Chess, 19th Century Russian Literature, Minnesota Timberwolves, Conscious Hip-hop, Collecting Jordans, Pasta