

Dorian (Woo Hyung) Lee

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PROFILE

EXPERIENCE: Senior quantitative analyst with skills in data science and machine learning who has applied academic expertise to real world problems.

QUALITY-FOCUSED: Dedicated researcher who conducts detailed analysis and testing to prevent error in algorithms/models.

QUALIFICATIONS

- Data Science
- Risk Analysis
- Regression Analysis
- Modeling
- Data Visualizations
- Technical Acumen
- ML Frameworks
- Project Management
- Agile Methodology

PORTFOLIO

<https://sites.google.com/view/quantdorian>

EDUCATION

- **PhD, Mathematics**, University of Illinois at Chicago, 2023
- **MS, Mathematics**, Wake Forest University, 2018
- **BA, Mathematics & Economics**, Pomona College, 2015

EXPERIENCE

CHURN Chicago, Illinois/remote

2024-Present

MACHINE LEARNING ENGINEER

Develop machine-learning-based risk models and perform analysis for a tech startup that is developing a model for ethical lending to low-income clients. Assess potential for default against returns, using ML and regression to determine probability. Perform segmentation analysis to determine the best targets for lending. Lead presentations to diverse audiences, adapting content to each group's level of understanding and interest. Work well individually and as part of a team.

- Recognized as the company's subject matter expert on research using ML methodology and related academic studies and publications.
- Gained a practical understanding of credit risk in a real world business model.

PRIME TRADING, LLC Chicago, Illinois

2023-2024

QUANTITATIVE TRADER

Worked as part of a team of four that analyzed data and developed trading strategy using algorithms at a proprietary trading firm. Employed machine learning and regression to test algorithms against trading goals and assess risk. Constructed and optimized data pipelines to feed ML models. Used Kalman Filter algorithms to evaluate pair-trading and run simulations. Performed quantitative research, using Linux to manipulate and structure data. Generated data visualizations and graphs to communicate hypotheses and business outcomes. Tracked P&L and large market moves with a focus on performance of the algorithm over time. Used statistical models and standard deviation to perform risk analysis. Collaborated with offsite software engineers to develop computation while using the same server. Worked as part of a team that followed agile project management methodology.

- Introduced a new type of reporting that used web scraping to improve efficiency and reduce time needed for manual review.
- Built automated algorithms to pull and merge data from two sources and discard any repeated values.
- Developed an understanding of event-based risk analysis (i.e., rate cuts, political events) on trading outcomes financial products and derivatives.

continued

UNIVERSITY OF ILLINOIS AT CHICAGO Chicago, Illinois 2018-2023

PHD RESEARCHER

Co-managed research projects to research and study algebraic geometry as part of a 3-person team. Used data science to determine if research goals were being met. Generated graphs and data visualizations to convey critical information. Wrote clear summaries that could be understood by non-experts. Followed Agile methodology for project management.

- Lead author for a peer-reviewed article in *International Mathematics Research Notices*.
- Gained experience working with big data sets, distributed computing, and CI/CD.
- Developed strong presentation skills during seminars and colloquia.

TECHNICAL SKILLS

ML Frameworks: NumPy, Scikit-learn, Pandas, TensorFlow, SciPy;
Programming: Python, R, Stata; **Data Analysis:** Excel (pivot tables, macros);
Visualization: PowerBI; **Relational Database:** MySQL; **OS:** Linux