

Jaewoong Lee

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EDUCATION

University of California, Berkeley <i>Exchange, Computer Science</i>	<i>Aug 2025 – Dec 2025</i>
Pohang University of Science and Technology <i>B.S in Mathematics</i>	<i>Expected Dec 2026</i>

• GPA: 3.9

• GPA: 3.7

PROFESSIONAL EXPERIENCE

Research Assistant <i>Sensorimotor Neural Engineering Lab, UC Berkeley</i>	<i>Jan 2026 – Feb 2026</i>
Research Assistant <i>Pohang University of Science and Technology</i>	<i>Jun 2025 – Aug 2025</i>
• Applied time-series methods to model the large-scale N=200 volatility matrix derived from real-world S&P 500 data, capturing long-memory property to enhance volatility clustering.	
• After extracting daily return from YahooFinance, executed PCA factor decomposition and dimensionality reduction for robust estimation, with the number of factors(K=3 factors) determined via the Eigenvalue Ratio Test and Variance Explained Criterion	
• Developed ARFIMA-based factor prediction and applied the idea of Dynamic Conditional Correlation(DCC) model in Python/R to forecast	
• Assessed model performance through statistical error measures including Frobenius norm, Mean Squared Error (MSE), and Max Norm, achieving a 17% improvement in volatility forecasting accuracy compared to the standard DCC model	
• Participated in and created 30 minute long presentations for POSTECH's Actuarial modeling, Insurance & Risk Management Research Group	
Research Assistant <i>Research Institute of Industrial Science & Technology</i>	<i>May 2024 – Sep 2024</i>
• Modeled optimal design of thermoelectric modules using feature engineering, based on features like thermal/electric conductivity, module geometry to optimize module efficiency	
• Applied linear regression and finite element method (FEM) to simulated data to maximize Figure of merit(ZT) and power capacity	
• Analyzed heat flow and energy conversion rate data simulated from COMSOL multiphysics software, using Python/R.	
Sergeant <i>Republic of Korea Army, CIQ</i>	<i>Aug 2022 – Feb 2024</i>
• Facilitated meetings for the United Nations Command Military Armistice Commission (UNCMAC), with translation	
• Served as the top enlisted representative, leading and representing soldiers	

PROJECTS

Cook County Housing Price Prediction Model Python, sklearn, seaborn, SQL	<i>Sep 2025 – Nov 2025</i>
• Developed a predictive model for housing prices using feature engineering and 5-fold Cross-Validation	
• Conducted EDA using seaborn to identify outliers and preprocessed data using regex	
• Applied OneHotEncoder to convert categorical variables for model training	
• Designed customized Weighted MSE metric to capture fairness, resulting in less regressive outcome than standard RMSE	

TEACHING EXPERIENCE

Student Mentoring Program Mentor

Feb 2024 – Feb 2025

Pohang University of Science and Technology

- Facilitated collaborative discussion-based sessions for Calculus 1, Multivariable Calculus, Linear Algebra
- Communicated academic development and career path options to students, giving guidance on course selection, and long-term goals

Instructor

Feb 2024 – Sep 2024

Altis Math Academy

- Taught math to high school students
- Covered precalculus, probability, geometry for Mathematical Reasoning Exam
- Gave feedback for mock tests

RELEVANT COURSES

UC Berkeley: Probability and Random Processes, Intro to ML, Algorithms, Principles and Techniques of Data Science

POSTECH: Statistical Learning, Real Analysis, Probability and Statistics, ODE, Intro to Numerical Analysis, Linear Algebra, Calculus 1, Multivariable Calculus, Artificial Intelligence Basics I, Artificial Intelligence Basics II, Programming & AI in Engineering

QUALIFICATION AND SKILLS

Programming: C++, Python, R, SQL

Tools: Pandas, Numpy, Scipy, Seaborn, Latex

English Proficiency: TOEFL - 104

AWARDS, SCHOLARSHIPS, AND GRANTS

Jigok Scholarship: Received every semester of enrollment (Feb 2021- Dec 2025)