Munyeong Kim

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SUMMARY

PhD student in Computer Science at Université de Montréal, advised by Professor Ian Arawjo in Montréal HCI Group. Research interests include Human–Computer Interaction and Human–AI interaction, with a focus on shared memory between humans and AI agents, productivity-supporting interfaces, agentic decision-making, and human behavior simulation.

EDUCATION

Doctorat en informatique | May 2026 -

Université de Montréal, Montréal, Québec

Maîtrise en informatique | Jan 2025 - Apr 2026

Université de Montréal, Montréal, Québec

Bachelor of Economics with Statistics Minor | Mar 2019 - Aug 2024

Kyungpook National University, Daegu, South Korea

PUBLICATIONS

- **Munyeong Kim**, Michalis Famelis, and Ian Arawjo. 2026. **"Metaphors for Memory: Charting a Design Space of AI Memory Tools and Interfaces."** Conditionally accepted in DIS 2026 (21% acceptance rate).
- Priyan Vaithilingam, **Munyeong Kim**, Frida-Cecilia Acosta-Parenteau, Daniel Lee, Amine Mhedhbi, Elena L. Glassman, and Ian Arawjo. 2025. **"Semantic Commit: Helping Users Update Intent Specifications for AI Memory at Scale."** UIST 2025 (22.2% acceptance rate). https://doi.org/10.1145/3746059.3747778
- **Munyeong Kim** and Sungsu Kim, **"Generative AI in Mafia-like Game Simulation,"** CHI 2024 Student Research Competition (14.5% acceptance rate). https://dl.acm.org/doi/10.1145/3613905.3647958

AWARDS

DIRO Excellence Scholarship, Université de Montréal CAD 5,000, Jan 2025

Awarded by the Department of Computer Science and Operations Research for outstanding academic performance.

Third place in the Big Data Competition organized by Korea Water Resources Corporation (K-water)

Project: *Neural Network Simulation for Rainfall and Water Level at Dams in Nakdong River Basin.*

Munyeong Kim, J. Yang, J. Choi, H. Shin, H. Park. Sept 2021

- Led a five-member team data analysis project utilizing governmental water resource data through LSTM (Long Short-Term Memory) model.

EXPERIENCE

Graduate Researcher under the supervision of Prof. Ian Arawjo Montréal, QC, Canada

Montréal HCI Group, Université de Montréal (DIRO) Jan 2025 – Present

- Conducting research in Montreal HCI on Human–AI interaction, focusing on how humans and AI agents build shared memory and on interfaces that support human productivity.

Undergraduate researcher under the supervision of Prof. Sungsu Kim Daegu, South Korea

Kyungpook National University Apr 2021 - Aug 2024

- Undergraduate research student under Prof. Sungsu Kim, conducting projects on Generative AI-based social deduction game simulation and market-impact-aware portfolio backtesting.

University Innovation Project: Independent Study on Advanced Topics Daegu, South Korea
Kyungpook National University Mar 2022 - Jun 2022

- Self-directed study in financial engineering and stochastic calculus (Black–Scholes, Heston, SDEs, Fourier analysis) under Prof. Doo-Hyun Choi, strengthening quantitative finance and mathematical foundations.

Quantitative Finance Club KNU DART Daegu, South Korea
Executive Chair, Director of Programming Education Feb 2022 – Jun 2022
Member Sept 2020 – Jun 2022

- Built strong foundations in data analysis, Python programming, and quantitative/ML-based modeling and simulation through club projects and training.
- Led and collaborated on 10+ team projects in quantitative finance and data science, including:
  - Analysis of Seoul's Real Estate Policies and Efficacy with Markov Regime-Switching Model (Hamilton, 1989), XGBoost, and Vector Autoregression (VAR) (Jun 2021)
  - Design of a Target Retirement Date Fund (TDF) using Genetic Algorithm and Vanguard TDF Glide Path Model (Apr 2021)
  - Machine-Learning Driven Portfolio Design and Backtesting using Hierarchical Risk Parity (De Prado, 2016) (Dec 2021)
  - Natural Language Processing (NLP) Project – Sentiment Analysis using KoBERT and Korean Stock Market Forecasting (Nov 2021)
- Designed and taught in-club courses on financial engineering and backtesting, contributed to recruitment, and helped secure over $3,000 in annual funding from the DB Kim Jun Ki Cultural Foundation.

RELEVANT COURSEWORK

Natural Language Processing with Deep Learning, AI Engineering, Human–AI Interaction, Big Data Analysis; Mathematical Statistics, Regression Analysis, Computational Statistics, Stochastic Processes; Game Theory, Macroeconomics, Microeconomics, Econometrics, Financial Stochastic Analysis, Financial Engineering.

SKILLS

Python (Pandas, NumPy, Scikit-learn, PyTorch), data analysis and visualization (Matplotlib, Seaborn, Statsmodels), machine learning and deep learning, statistical modeling and time-series analysis (ARIMA, GARCH, regime-switching models), quantitative finance and portfolio backtesting, basic JavaScript, React, C/C++, R.

LANGUAGES

Korean (native), English (fluent), French (beginner), Mongolian (beginner)