MINWU KIM

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EDUCATION

New York University Abu Dhabi   Aug 2018 - Jun 2024
Bachelor of Science in Computer Science, Minor in Applied Math   *Abu Dhabi, UAE*

- GPA: 4.0/4.0 (summa cum laude)
- Awards: Full Academic Scholarship ($80,000/year), University Honors Scholar.
- Relevant Courses: Machine Learning, Reinforcement Learning, Optimization, Probability Theory, Econometrics

PUBLICATIONS & PREPRINTS

- **M. Kim***, A. Shrestha*, S. Shrestha, A. Nepal, and K. Ross, *"Reinforcement Learning vs. Distillation: Understanding Accuracy and Capability in LLM Reasoning,"* preprint. (*link*)
- S. Shrestha*, **M. Kim**, A. Nepal, A. Shrestha, and K. Ross, *"Warm Up Before You Train: Unlocking General Reasoning in Resource-Constrained Settings,"* in *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP 2025).* (*link*)
- A. Nepal, S. Shrestha, A. Shrestha, **M. Kim**, and K. Ross, *"Layer Importance for Mathematical Reasoning is Forged in Pre-Training and Invariant after Post-Training,"* preprint. (*link*)
- **M. Kim***, S. Shrestha*, and K. Ross, *"Mathematical Reasoning in Large Language Models: Assessing Logical and Arithmetic Errors across Wide Numerical Ranges,"* preprint; under review. (*link*)
- **M. Kim***, S. Benabderrahmane, and T. Rahwan, *"Interpretable Machine Learning Model for Predicting Activist Investment Targets,"* The Journal of Finance and Data Science, Vol. 10, Dec. 2024. (*link*)

RESEARCH EXPERIENCES

NYU Deep Reinforcement Learning Lab   Sept 2024 - Aug 2025 (Expected)
Researcher *(advisor: Prof. Keith Ross)*   *Abu Dhabi, UAE*

- Currently exploring how to improve and evaluate mathematical reasoning of language models (LLMs)

NYU Embodied AI and Robotics Lab   Oct 2023 - Dec 2023 / May 2024 - Aug 2024
Research Assistant *(advisor: Prof. Yi Fang)*   *Abu Dhabi, UAE*

- Constructed an agentic workflow pipeline and developed a RAG chatbot for the NYUAD community, leveraging 40K+ documents and deployed during freshman orientation week to enhance access to school resources.
- Elevated the product to a multi-LLM-agent ecosystem across eight NYUAD departments, enabling API-driven tool automation; selected for the NYU Engineering Ventures Incubator.

NYU Data Science and AI Lab   Feb 2023 - May 2024
Researcher *(advisor: Prof. Talal Rahwan)*   *Abu Dhabi, UAE*

- Built a prediction model for activist fund targets in the US stock market using seven years of Russell 3000 data, covering 46 variables, including novel ESG and ownership factors unexplored in previous studies.
- Achieved SOTA performance with an AUROC of 0.78 (previous best: 0.67) and a 26.7% hit rate for the top 30 companies in 2023 (average: 3.7%); performed SHAP analysis to capture complex target selection dynamics.
- Authored a *study* published at *The Journal of Finance and Data Science*; collaborated with *Bloomberg* on embedding the prediction model to its activism screening product.

KDI School of Public Policy and Management   May 2023 - Dec 2023
Research Assistant *(advisors: Prof. Jaehyuk Park, Prof. Seohyun Lee)*   *Sejong, South Korea*

- Studied long-term impacts of the 1997 Asian Financial Crisis on Korean elderly with census microdata (1997–2020); conducted heterogeneous treatment effect with causal forest to reveal subgroup-specific effects (log).

WORK EXPERIENCES

Dify.AI — June 2024 - Aug 2024
AI Engineer Intern — *Suzhou, China*

- Architected a drag-and-drop GraphRAG LLM app development platform; devised a novel approach for cost-efficient graph construction and node retrieval; implemented interactive graph visualization and editing features.

Breaking — Feb 2022 - Dec 2022
Software Engineer, Co-founder — *Seoul, South Korea*

- Co-founded *Breaking*, an online platform which facilitates news reports trading between users and press agencies.

- Designed and developed the RESTful server API with Java Spring Boot and Spring Data JPA ([code](#)).

- Received angel round offer from *Sherpa Ventures* ($75k approx.); won the Bronze prize at *Korea Press Foundation Data Hackathon* and qualified the first round of *Republic of Korea Army Startup Competition*.

PROJECTS & LEADERSHIP

NYUAD Business and Finance Society — Jan 2022 - Oct 2022
Macroeconomics Analyst — *Abu Dhabi, UAE*

- Published 40+ macroeconomics articles analyzing topics including Fed's monetary policies, the US-China trade war, chip war, and the decline of the petrodollar system; garnered 30k+ views.

Resow — Aug 2022 - Dec 2022
Software Engineer — *New York, US*

- Developed and tested a P2P second-hand online marketplace for the NYU community with MERN Stack.

ADNOC Bloomberg UAE Trading Challenge — Mar 2022 - Apr 2022
Algorithmic Trader — *Abu Dhabi, UAE*

- Implemented an algorithm to select high-volume tickers on the Dubai Financial Market, using RSI and MACD crossovers for trade signals; outperformed the market benchmark by 5.2%, ranking 17th among 282 teams.

Republic of Korea Army — Dec 2019 - Jun 2021
Sergeant — *Gyeryong, South Korea*

- Served as a Chinese Language Specialist at *Personnel Command, Republic of Korea Army HQ*.

TECHNICAL SKILLS

Programming	Python, C/C++, R, Java, Javascript, SQL, Neo4j, Git
Libraries	Pytorch, Numpy, Pandas, Keras, Sklearn, HuggingFace, EconML, Langchain, AutoGen
Languages	English (fluent), Chinese (fluent), Korean (native)