# 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

## RESEARCH EXPERIENCES

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

- Exploring unique characteristics of LLMs to improve reasoning abilities leveraging those traits.
- Examining LLMs' reasoning resilience in math problems, creating GSM-AE benchmark to separate reasoning from arithmetic errors and developing a novel prompt engineering for improved symbolic accuracy.
- Generating high-quality synthetic data to capture nuanced human reasoning, focusing on iterative and self-corrective cognitive steps to enhance LLM capabilities with fine-tuning.

**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.

**Korea Development Institute 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).
- Built a newspaper index tracking OPEC interest, showing unexpected rises correlate with increased oil price volatility, often driven by unpredictable OPEC events or economic shifts.

## 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.*

## PUBLICATIONS

**M. Kim**, S.Benabderrahmane, and T. Rahwan, *"Interpretable Machine Learning Models for Predicting the Next Targets of Activist Funds,"* The Journal of Finance and Data Science, Vol. 10, Dec. 2024. (*link*)

## TECHNICAL SKILLS

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| **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) |