Remy Kim

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Education

University of Pennsylvania — Philadelphia, PA

GPA: 4.00 / GRE: 161(V) 170(Q) 4.5(W) / MS Candidate in Computer and Information Science — *Aug 2022 - May 2024(Exp.)*

Relevant Coursework: Stochastic Models, Game Theory and Applications, Convex Optimization, Applied ML, Big Data Analytics, Cryptography

Seoul National University — Seoul, South Korea

GPA: 3.75 / BS Electrical & Computer Engineering and BA Business Administration (Dual Major) — *Mar 2016 - Aug 2022*

Relevant Coursework: Linear Algebra, Probability and Stochastic Processes, Estimation Theory, Control Theory, Data Science Capstone, Data Structure, Computer Organization, Financial Management, International Financial Markets, Intro to Accounting

Skills Summary

- **Languages:** C/C++, Python, SQL, MATLAB, Java, R, Javascript, Solidity, Linux Scripting

Work Experience

Kokoa Finance Labs — Seoul, South Korea

Quantitative Researcher Co-op — *Jan 2022 - July 2022*

- Conducted asset default risks simulation analysis using stochastic models/graph models that calculate individual collateral risks based on price volatility across multiple decentralized exchanges (3 DeFi protocols of aggregate TVL $200M+)
- Built protocol valuation models that use "Cost of Liquidity" measures (Cost of Capital equivalent of On-Chain Liquidity) that account for costs from bootstrapping LP (liquidity providing) tokens
- Implemented a controller mechanism for protocol's interest rate and stability fee of each collateral in the collateral-backed stablecoin platform; Used PID controller and Value-at-Risk framework

Allganize, inc. — Seoul, South Korea

Software Engineer Co-op — *June 2021 - Dec 2021*

- As part of ML team in a B2B natural language products firm, implemented and deployed Key-Value Extraction Suite (a solution recognizing meaningful key-values from client's raw input documents) using LayoutXLM model and AWS instances
- Leading a team of two, built industry-specific sentiment analysis solution for finance and cosmetics that was later deployed on the company's wider cognitive search product and successfully closed two PoC contracts with Japan's largest conglomerates
- Reduced server latency of language model processing by 54% by migrating the inference pipeline to Tensorflow Extended

Research Projects/Extracurricular

Penn Quant Trading Club (FTX Trading Competition) — *Oct 2022 - Present*

Penn Blockchain Research Committee (Crypto Regulations Panel) — *Sep 2022 - Present*

Operations Research Group by Prof. Minhwan Oh — Seoul National University

Research Intern — *Mar 2021 - July 2021*

- Published a comprehensive survey paper on exploration techniques used in deep reinforcement learning (RL) literature, ranging from intrinsic motivation methods to model-based exploration and distributional RL (ex. Quantile Regression RL)
- Devised and tested exploration enhancing schemes using dropout methods and stachastic weight averaging, improving upon bootstrapped DQN (Osband 2016) and SWAG (Maddox 2019) in simplified Markov Decision Process environments

SNU FIXERS (Fixed Income/Derivatives Club) — Seoul National University

Co-Founder — *Mar 2017 - Dec 2020*

- Presented a series of deep-dive seminar into the structure of Korea Treasury Bond currency swap (a currency swap matching foreigner's KTB demands and Korean institution's dollar bond demands with adequate hedging structure) focusing on amendments to Credit Support Annex that includes top-up trigger and tri-party agreement structures
- Lead group research on pricing interest swap, asset swap and currency swap and how swap products handle risks highlighted in the ISDA Master Agreement terms

Additional Information

- **Interests:** Dynamical systems, Fat tail risks, Applying automated decision making in finance(e.g. RL), Avid tennis player
- **Honors and Awards:** Changgang Foundation Scholarship (Dec 2020), National Humanities and Social Sciences Scholarship (Dec 2020), 2016 KNC Champion (Largest inter-varsity English debate championship)
- **Languages:** English(Bilingual), Korean(Bilingual), Mandarin(Conversational)
- **Favorite Books:** Antifragile, How Not to Be Wrong, Narrative and Numbers, The Network State, Chaos: Making a New Science