PRACH THAEWANARUMITKUL

Address: 655 University Pl, Evanston, IL
Tel: 603 203 7318; Email: prachthaewanarumitkul@gmail.com

EDUCATION

Northwestern University (GPA: 3.85/4.00) Evanston, IL 06/2026
Pursuing Bachelor's degree in Mathematical Methods in Social Science, Economics, and Data Science
- Current Coursework: Advanced Econometrics, Data Science with Python/R, Advanced Game Theory

Brewster Academy (GPA: 4.00/4.00) Wolfeboro, New Hampshire 2021 - 2022
Post Graduate Student
- Full Scholarship from the Bank of Thailand to pursue a Bachelor's degree abroad in Economics

RELEVANT EXPERIENCE

Data Scientist, Bank of Thailand Research Center Bangkok, Thailand 07/24 - Present
- Formulated the equation between the climate variables and agricultural land values in Thailand, benefiting the Thailand urban planning centers by informing land development strategies and climate change adaptation
- Systematized the python data cleaning algorithm for the agricultural revenue survey of each household
- Performed NLP to classify the existence of Net Zero and Carbon Neutrality goals across 721 firms in Thailand

Data Analyst, Thammasat University Bangkok, Thailand 03/22 - Present
- Cleaned well-being index data related to economic factors such as inequality, food security, and wealth distribution across 9000 agricultural-based households and abstract factors such as life satisfaction
- Constructed improved well-being indexes to replace the Gini Index and raise awareness regarding wealth inequality in Thailand. The paper Developed Gini will be published and be beneficial to community developers

Data Analyst, Agoda Singapore, Singapore 04/24 - 07/24
- Modified Agoda's messaging SLA (Service Level Agreement) statement from a static hour to flexible thresholds depending on loads of agents, number of customers in the queue, and other variables through Python modeling
- Preprocessed the recipe for TTFR (Time to First Agent Reply) prediction to decrease TTFR, increase accuracy, and keep the commitment of new SLA at 90 percent to reconcile customer experience and expectation
- Developed quantitative strategies by researching the spread of longest acceptable waiting time and shortest unacceptable waiting time to draw more customers to explore message platform instead of voicemail

Quantitative Trade Analyst, Bank of Thailand Bangkok, Thailand 05/23 - 09/23
- Modeled the effect of each Free Trade Agreement (FTA) utilization between China, England, USA, and ASEAN countries with Thailand on the Amount of Thailand Exported GDP via Python (Pandas) and STATA
- Recommended whether to commit to a specific FTA to increase Thailand's GDP and bolster the level of imports, exports, and investment in private equity, energy, and electronics by Thailand by partner countries

Quantitative Analyst, Northwestern Fintech Evanston, IL 09/22 - 11/23
- Developed a Quant library database for NU Fintech Club applying Python, C++, and R
- Designed quant trading strategies on put-call options focusing on Vega and backtested of the club trading algorithm

Co-author and Financial Analyst, Zenith textbook Bangkok, Thailand 05/21 - 10/23
- Wrote combinatorics, including the pigeonhole principle, graph theory, poker problems, and double-counting
- Pitched five possible sponsors and supporters for Zenith Project based on matching data analysis
- Improved Thailand mathematics literacy through over 10,000 sold copies of Zenith and the impact is guaranteed by increasing scores on Thailand Math Standard Test (O-NET)

PROJECTS

GAMMA MISMATCH strategy (Python, C++) Illinois, USA 09/22 - Present
- Compared the gamma values derived from the Heston model (Γ2) with the observed market gamma (Γ1) for options, seeking for mismatches and writing algorithms to search for optimal mismatches threshold
- Bought and sold put and call options based on the level of implied gamma and market gamma
- Assessed the performance of the strategy on action thresholds of over 1%, 2%, and 4% mismatches

Optimal Car Market Investment (Python, R, SQL) Illinois, USA 09/23 – 09/24
- Explored multiple regression models, with boosted trees, random forest, and neural networks being the top performers and then created Ensemble Model with RMSE of 0.0188
- Performed NLP on car market documents to see the impact of news and discoveries on mobility technologies on car prices throughout history

ADDITIONAL INFORMATION

COMPUTERS	Python (Proficient), R (Proficient), STATA (Proficient), Excel (Proficient), SQL (Intermediate)
HONORS	Undergraduate Excellence Mathematics Award, Thailand Mathematics Olympiad (TMO) Gold Medalist, World Youth International Mathematics Competition Gold Medalist, AIME qualifiers, International Geography Olympiad Bronze Medalist, Thailand Economics Olympiad Gold Medalist
LANGUAGES	Thai (Native Speaker), English (Fluent), Japanese (Working Knowledge)
INTERESTS	Math Modelling, Risk Management, Music (Vocal and Performance), Seashells, Poetry
PROGRAMS	IMC Trading Math Madness, BCG Launch, UChicago Econometrics Game