

# Jasarin Vorawathanabuncha

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## Experience

### Data Scientist

Siam Commercial Bank  
1/21 -

- Developing dynamic risk scoring for debt collection strategy optimisation.
- Developing and deploying Bayesian models and simulation framework for high-dimensional (20K products) dynamic pricing optimisation of credit card point redemption scheme.
- Creating graph database from large unstructured data using various derived relationship and constructing graph-based feature engineering and learning algorithms.

### Part-Time Researcher

WorldQuant Predictive  
6/20 - 11/20

- Developed machine learning models to identify anti-viral activity of chemical molecules as a SARS-CoV-2 phenotypic screening to filter and re-purpose drug candidate treatments.
- The tree-based model achieved 73% AUROC in the highly imbalanced dataset (20:1).

### Part-Time Research Consultant

WorldQuant, LLC  
8/18 - 7/19

- Created 70+ market-neutral trading strategies (alphas) for US, EU, and Asian equities using proprietary Virtual Research Centre's WebSim platform.
- Achieved average Out-of-Sample over In-Sample Sharpe of 1.48 using price-volume, fundamental, and sentiment datasets.

### Quantitative Research Intern

(full-time offered)  
WorldQuant Research  
5/18 - 8/18

- Low- to mid-frequency US Equity market-neutral alpha research using Python and C++.
- Implemented Kalman Filter, Fast Fourier Transform, Principal Component Analysis, Logistics Regression, and GARCH in Python.
- Developed genetic algorithm-based alphas' parameter optimizers with stats report module.
- Gave weekly lectures on alpha-creating techniques to WorldQuant's International Quant Championship 2018 participants.

## Education

### Carnegie Mellon University

MS in Computational Finance  
08/19 - 01/20

- 4.14/4.33 GPA. (All A/A+).
- Economics Research Club, Quantitative Finance Club, Data Science Club.

### Chulalongkorn University

BBA in Banking and Finance  
08/15 - 05/19

- 3.98/4.00 GPA. (Rank 1/118 - Gold Medal) .
- Finance major committee, University chorus pianist.
- Academic Excellence Award in all four years,
- Silver Medal in 2017 National Crown Diamond economic competition (Rank: 2/224), 4th place in Thailand 6th Mozart International Competition.

## Mini Projects

### Sampling from Empirical Financial Correlation Matrix Densities Using GAN

2/20

- Applied DC-GAN in generating returns correlation matrices for Monte Carlo simulations.
- Found that the over-fitted network can be used to sample from high-dimensional (>60) empirical densities 2.9 times faster than traditional bootstrap sampling.
- Improved the baseline mis-classification rate by 17.4 percentage points.

### Analysis and Intuitions on Edible Wedding-Cake Structured Notes

11/18 - 12/18

- Modelled a new financial derivative by adding adaptive pay-offs to Wedding Cake Option.
- Priced the instrument on Hestonian underlying using Monte-Carlo with antithetic variate.
- Developed GUI in MATLAB for computing and visualising prices and the Greeks.
- Offered implications and intuitions on behaviour of the Greeks.

## Interests

- Equestrian show jumping, Dressage
- Mid 20th-century and contemporary classical piano, Contemporary art, Algorithmic art.
- Corporate finance, Financial economics, Portfolio optimisation.
- Probabilistic programming, Bayesian modelling.