INGGRIANY DWITAMI

Passionate in learning and applying mathematics to the real world

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EDUCATION

B.Sc in Mathematical Sciences with Minor in Finance
Nanyang Technological University

📅 July 2017 – Dec 2020   CGPA - 4.97/5.00

- Achieved Dean's List (top 5% of cohort) in AY 2017/2018 and AY 2018/2019

ACADEMIC PROJECTS

Final Year Project
A*STAR - Agency for Science, Technology and Research

📅 Jan 2020 – Dec 2020   📍 Singapore

- Project Title: Differentially Private Algorithms for Time Series Classification
- Project Supervisor: Assoc Prof Wang Hua Xiong and Dr. Benjamin Tan Hong Meng
- Objective: Survey existing methods to develop models for time series classification and develop differential-private analogs
- Conducted literary reviews on state-of-the-art time series classification algorithms (deep learning and non-deep learning) and differential privacy concept

Undergraduate Researcher (URECA)
Nanyang Technological University

📅 Aug 2018 – Aug 2019   📍 Singapore

- Project Title: Optimization Algorithms for Improved Symmetric-Key Cipher Design
- Project Supervisor: Assoc Prof Thomas Peyrin
- Objective: Utilize an optimization algorithm to count the minimum number of `S-boxes` triggered in an attack
- Utilized `CryptoSAT` library on `Python` and `Yices` SMT Solver to conduct differential cryptanalysis on the cipher `GIFT`, `SIMON`, and `SPECK`
- Compared the result with other solvers such as Mixed Integer Linear Programming (using `Gurobi`) and Constraint Programming (using `MiniZinc`)

WORK EXPERIENCE

System Engineer R&D Intern
Yitu Technology Singapore

📅 May 2019 – Aug 2019   📍 Singapore

- Developed a ChatBot – called Botitu – in `Python` (`Flask`) with NLU capabilities for intention detection and entity extraction to automate the deployment and deletion of containers in the company's `Kubernetes` cluster
- Conducted time series analysis and signal processing to forecast future usage of resources such as CPU and memory usage for the purpose of Predictive Autoscaling; used ARIMA, Prophet, Kalman Filter, and LSTM

ACHIEVEMENTS

- Participated in ACM-ICPC (2020) regionals Manila (ranked 19th) and Kuala Lumpur (ranked 15th) and in ACM-ICPC (2019) regionals Singapore (ranked 18th) and Nakhon Pathom (ranked 10th)
- Kattis Score: 345.6, Rank: 1028

SKILLS

C/C++   RASA NLU   Django   Flask   Python   SQLAlchemy   Alembic   PostgreSQL   NoSQL   Numpy   Pandas   Keras   Tensorflow   Tensorflow Privacy   StatsModels   CryptoSAT   Docker   Kubernetes   LaTeX   Microsoft Office

FIELDS OF INTEREST

- Optimization
- Machine Learning
- Cryptography
- Coding Theory
- Finance

COURSEWORK

- Data Structure
- Algorithms & Computing
- Mathematical Programming
- Cryptography
- Coding Theory (ongoing)
- Probability and Statistics
- Stochastic Processes
- Investment
- Derivatives

EXTRACURRICULAR ACTIVITY

Vice Chairperson of Welfare Initiative Committee
Nanyang Technological University Students' Union (NTUSU)

📅 Aug 2018 – Jul 2019

- Drafted business proposals for sponsorship requests
- Conducted and led a meeting with a team of 24 members on approaching potential sponsors Communicated with sponsors on goods procured and rewards given

LANGUAGES

Indonesian ●●●●●
English ●●●●●
Chinese ●●●○○