Nathaniel **Wihardjo**

SOFTWARE ENGINEER

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Education

Hong Kong University of Science and Technology   *Hong Kong S.A.R*

B.ENG IN CHEMICAL ENGINEERING, MINOR IN INFORMATION TECHNOLOGY - UPPER SECOND CLASS HONOUR   *2015 - 2019*

- Coursework includes: Big Data Mining and Management, Introduction to Natural Language Processing, Search Engine
- Silver Awardee President's Cup 2019: A Fully Conformable Skin Sensor for Sports Fatigue Detection
- Activities: HeadStart Fellow Programme, Indonesian Students of HKUST Committee

University College London   *London, United Kingdom*

AFFILIATE STUDENT, CHEMICAL ENGINEERING - FIRST CLASS HONOUR   *2017 - 2018*

- Coursework includes: Separation Processes, Chemical Reaction Engineering
- Activities: UCL Data Science Society, UCL Photo Society

Experience

Macquarie Group Limited   *London, United Kingdom*

TECHNOLOGY INTERN   *Jun. - Aug. 2018*

- Built cloud big-data platform through Cloudera cluster management on top of AWS EC2 instances for Energy Market Access data
- Improved database efficiency and queries performance by 99% through Apache Hive and Impala
- Tackled incompatibility between Apache Impala and Kerberos protocol with bash scripting and GRPC protocol
- Communicated and provided Energy Market business with the analysis of the data

Oddup Limited   *Hong Kong S.A.R*

RESEARCH INTERN   *Jun. - Aug. 2017*

- Developed web crawler utilising *scrapy* framework and VBA macro to expand database, resulting in enhanced performance by 60%
- Initiated efficient database cleaning and management processes through Python using *nltk*-based library
- Assisted in finding bugs on new website and back-end system management
- Wrote analysis article and generated daily funding and operation news based on extensive research on Asian startup ecosystem

Goxip, Moby Road Limited   *Hong Kong S.A.R*

DATA ANALYST INTERN   *Dec. 2016 - Jan. 2017*

- Self-taught Javascript on Google Apps Script to automate data aggregation, integration, and visualisation processes
- Analysed sales data to provide better overview of the relation between marketing and sales performance on daily basis
- Designed effective procedures to drive user engagement using VBA coding

Highlight Projects

Spaghetti Search   *Go, BadgerDB*

CONCURRENT AND SCALABLE SEARCH ENGINE BUILT ON GOLANG   *Code here*

- Implemented Go's generator, future, and fan-in fan-out concurrency pattern to leverage retrieval performance
- Utilised Topic-Sensitive PageRank and Vector-Space Model algorithm for ranking
- Designed a scalable database schema on a NoSQL database

Trading Bot   *pytorch, numpy*

A REINFORCEMENT LEARNING MINUTE-BASED FINANCIAL TRADING AGENT ON HKEX   *Code here*

- Developed base code for trading bot using Deep Direct Reinforcement Learning model
- Assessed methods of knowledge discovery on financial market data

Concurrent Scraper   *java, htmlunit, javafx*

OPTIMISED AND FASTER WEBSCRAPER FOR AMAZON AND CRAIGSLIST PORTAL   *Code here*

- Wrote a webscraper based on *htmlunit* framework to retrieve queried items
- Increased performance through multi-threading to support concurrency on handling pagination

Skills

Programming Language	C++, Python, Go, bash scripting, Java, Visual Basic Application (VBA)
Data Science	pandas, numpy, Keras, tensorflow, SQL, Hadoop, Apache Spark, Apache Hive & Impala
Human Language	English (Proficient), Indonesian (Native)