VALARY LIM

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE | BSc. Business Analytics (Hons) and BA Economics　　Aug 2018 - May 2022 (Expected)
- School of Computing & University Scholars Programme (USP), NUS Global Merit Scholar
- Cumulative GPA: 4.83/5.00 (Expected Honours with Highest Distinction)
- Awards: Dean's List in Fall 2019 and Spring 2020; Top 1/305 in CS2040 Data Structures and Algorithms; Top 10/144 in BT2102 Data Management & Visualisation; Top 10/594 in CS1010S Programming Methodology

TECHNICAL SKILLS

- **Programming Languages & Frameworks**: Python, R, Java, MySQL, JavaScript, Vue.js, React-Native
- **Statistical Tools/Packages**: Excel, [Python] pandas, geopandas, scikit-learn, statsmodels, OpenCV; [R] tidyverse, caret, etc.
- **Data Visualisation**: Tableau, Microsoft PowerBI, Python Dash, NetworkX
- **Data Science**: Regression Analysis, Time Series Forecasting, Simulation, Prediction & Classification Models, Unsupervised Machine Learning, Image Processing, Optical Character Recognition (OCR), Natural Language Processing (NLP)
- **Others**: Git (Version Control), Database Management & Data Querying, Data Scraping, Web Development

WORK EXPERIENCE

WORLDQUANT | Quantitative Research Intern　　Dec 2019, Aug 2020 - Present
- Automate the alpha design framework to generate multiple signals, and visualise and evaluate alpha signal performance
- Collaborate with Quantitative Researchers and senior Portfolio Managers to generate signals to forecast movements of worldwide financial markets from news data and experiment with ideas from academic finance literature

GIC | Data Science Intern　　May 2020 – July 2020
- Proposed and estimated a simultaneous equation model in Python to forecast future real rental growth for the UK office market and benchmarked the model against standard time series models (random walk and autoregressive)
- Independently developed an algorithm based on a synthesis of architecture and data science academic literature to extract information from floor plan images, increasing the sample size by three fold and decreasing model's percentage error by 5%
- Created a valuation model to predict rental prices per square foot of estates using information extracted from floor plans

NATIONAL UNIVERSITY OF SINGAPORE | Teaching Assistant　　Aug 2019 – May 2020
- Conducted tutorial sessions for classes of 12-25 students, graded assignments and practical examinations, and provided consultations for **CS1010S Programming Methodology I** and **CS2040 Data Structures and Algorithms**
- Simulated contest submissions as Contest IC for 2048 Solver, a contest where students create an automated solver for 2048
- Achieved a teaching score of 4.6, higher than department and faculty average of 4.1, and 8 teaching award nominations

IRAS | Corporate Strategy and Data Analytics Intern　　Dec 2018, May 2019 – Aug 2019
- Built a deep learning text classifier using Tensorflow and Keras to categorise and direct emails to relevant tax officers
- Constructed a Python web scraper to automatically retrieve geographical coordinates of malls for real estate modelling
- Coordinated with external vendors to research, test and evaluate various automated machine learning tools and packages
- Designed 3 customised and interactive dashboards in PowerBI to optimise performance checking for team managers

PROJECTS

VISUAL ML | github.com/valarylim/visualml | https://visualml.herokuapp.com/　　May 2020
- Visual ML is an individual passion project that aims to facilitate greater understanding of classification models by simulating datasets and visualising various model performances on an interactive dashboard

VUEPLAN | github.com/valarylim/vueplan | vueplan.firebaseapp.com/　　Jan 2020 – Apr 2020
- Led a team of 5 to develop VuePlan, a centralised academic planning system for NUS students, using Vue.js and Firebase
- Constructed the Academic Planner feature, inclusive of a drag-and-drop interface and module prerequisites checker
- Visualised module popularity on an interactive dashboard for Module Information feature
- Designed and implemented user interface for VuePlan based on user interaction and feedback

ALPACASH | github.com/valarylim/alpacash　　May 2019 – Aug 2019
- Alpacash is a gamified financial tracker built on React-Native and Firebase, aiming to engage users to budget and save more
- Engineered the Budget and Finance Statistics segments consisting over 20,000 lines of code
- Attained Apollo 11 (highest) achievement under NUS Orbital, a 1st year summer self-directed software development course

EXTRACURRICULAR AND LEADERSHIP

USP PEER MENTORSHIP PROGRAMME | Peer Mentor　　Aug 2019 – Present
- Organise mentoring sessions for Business Analytics freshmen to provide advice and smoothen transition into university

USP FRESHMEN ORIENTATION PROGRAMME | Finance Director　　Dec 2018 – Sep 2019
- Led a group of 6 committee members to oversee expenditure of 5 events for the Freshmen Orientation Programme
- Collaborated with USP and NUS Administrative Staff and event directors to create and revise budgets for each event