Jui-Hsuan Chang

765-607-0441 | chang666@purdue.edu | linkedin.com/in/jui-hsuan-chang-487b89190/

OBJECTIVE: Statistics & CS Masters seeking a 2021 full-time position in data science or analytics

Education

Purdue University 08/2019 – 05/2021
Master of Joint Statistics and Computer Science *West Lafayette, IN*

- Related Courses: Data Mining (Implementation algorithm without external library), Database Systems, Statistical Methodology

National Taiwan University 09/2017 – 06/2019
Master of Science in Statistics *Taipei, Taiwan*

- Master's Thesis: Analysis of Dengue Data with Clustering
- Related Courses: Applied Time Series Analysis, Machine Learning Techniques, Applied Linear Statistical Model

Soochow University 09/2012 – 06/2016
Bachelor of Financial Engineering and Actuarial Mathematics *Taipei, Taiwan*

- Related Courses: Regression Analysis, Data Mining with Applications on Business, Mathematical Statistics

Professional Experiences

Machine Learning Engineer Intern 07/2020 – 08/2020
E.sun Financial Holding Co., Ltd *Taipei, Taiwan*

- Improved credit card fraud detection model's F1-score by 8% by finding new behavioral patterns and enhancing data sampling methods for the LightGBM model.
- Introduced Spark to the data science team, demonstrating 1.47 times increased efficiency compared to current SQL methods on existing workflows, evidence that is used to spearhead a company-wide technological transition.

Research Assistant 11/2017 – 08/2019
National Taiwan University Molecular Biomedical Informatics Lab *Taipei, Taiwan*

- Designed an innovative KDE clustering to boost the stability of traditional clustering methods, correctly identifying the highest risk group for contracting the most severe case of dengue among inpatients (odds ratio of 11.18).
- Validated hypothesis with data that supports new discovery of comorbidity between dengue and other diseases.
- Collaborated with doctors and communicated with interdisciplinary experts to meet their needs.

Projects

Sentiment Analysis of Twitter with Coronavirus | *Python, pandas, keras* 08/2020 – 12/2020

- Analyzed and explored COVID-19 sentiments on Twitter using SVM, RNN, and CNN models, selecting features based on thorough exploratory data analysis, ultimately training a Bert model with 85% attribution accuracy.

Multi-task learning projects | *Python, keras, PyTorch* 01/2020 – 05/2020

- Designed and developed a multi-task learning NLP model using multiple neural networks with different word embedding approaches (work2vec, GloVe), confirming hypothesis that frames, affiliation, and hashtags have a highly correlated relationship. Model achieved average of 7% more accurate prediction performance than single-task models.

Statistical Computing project | *R, moveHMM* 02/2018 – 06/2018

- Identified animals' movement pattern based on step length and path transfer angles using Hidden Markov models, performing complex data and analytical visualizations in R (with tidyverse and ggplot2 packages).

Marketing analysis project | *SQL, Excel* 02/2018 – 06/2018

- Proposed Bayesian modeling and RFM model of Bob Stone to look for a loyal customer among supermarket consumers, increasing 10% purchasing rate by conducting A/B testing on recommended system.

Skills

Programming languages: Python, R, SQL, SAS, SPSS, Spark
Libraries: pandas, NumPy, Matplotlib, PyTorch, TensorFlow, SciPy, keras, sklearn, LearnBayes, bootstrap
Technical skills: Exploratory/predictive/Statistical Analyses, Probability/Statistics, Data Mining, Data Processing, A/B testing, Clustering, Visualization Tools
Certificate: SOA – Exam P (Probability)
Languages skills: Mandarin Chinese (Native), English (Fluent), Japanese (N2).

Awards

Cathay Life Insurance Scholarship 09/2014
Awarded by Cathay Life Insurance

Soochow University Academic Merit Award 04/2013 – 12/2013
Top 3 of current promotion