Zheng(Claire) Zhou

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EDUCATION

Boston College, Morrissey College of Arts and Sciences, Boston, MA Aug 2018 - May 2021 (Expected)

B.A. in Computer Science, B.A. in Mathematics

- Cumulative GPA 3.83/4.0, Dean's List for four semesters
- Selected Coursework: Algorithms, Machine Learning, Stochastic Processes, Operating Systems, Database Management
- Courses in progress: Mathematical Statistics, Distributed Systems, Mathematical Modeling

ACADEMIC PROJECTS

Boston College | Department of Computer Science | Research Assistant | Boston, MA

Interactive Document: Text-to-chart References Analysis May 2020 - Aug 2020

- Collected text-chart references in a total of 77 articles, grouped references hierarchically based on semantic parsing, classified the linguistic ambiguities, and analyzed visualization tasks of the references
- Enriched Berkeley Dataset, reproduced charts with JSON objects using Vega-Lite and Altair, trained sentence-level intentions and entities in wit.ai, and helped build a novel NLP system to support interactive synthesis of texts and charts
- Contributed as a co-author for a relevant paper under review by ACM CHI Conference on Human Factors in Computing Systems 2021

Predicting hit songs Oct 2019 - Dec 2019

- Retrieved music rankings using Billboard REST API, generated test dataset from Million Song Dataset by resampling, selected 13 best music features using sklearn, and created a classifier to help artists determine hit songs by logistic regression with L1 regularization, SVM with hyper-parameter tuning using grid search, and K Nearest Neighbors
- Achieved 0.29 out-of-sample error rate, 0.67 precision and 0.83 F1 score

Medical Supply Database for COVID-19 June 2020 - Aug 2020

- Designed a database to help hospitals keep track of medical inventories, shipments, and sell line in Oracle SQL using relational model, drew ER-diagram, normalized logical design in LucidChart, simulated tables' metadata, and realized queries such as counting products based on sizes and finding all orders of Honeywell with a fast shipping mode

Efficient and Robust Top-k algorithms for Big Data IoT May 2019 - Oct 2019

- Revised a family of algorithms that explore unsafe algorithms (i.e. some faulty items will be selected in top-k queries), evaluated their accuracies using simulation from numpy and real-world data from Array of Things, proved their fault-tolerance properties, and showed superiority over conventional methods which led to a publication

Shell Project Oct 2019 - Dec 2019

- Implemented a shell program in C that displayed current directory, printed pid of the process from user's last sub-command, accomplished desired redirections of sub-commands, and provided support for process-specific environment variables

EXPERIENCES

Zhihuitongcheng Network Technology Co., Ltd | "Super Web" Program Intern | Nanjing, China Dec 2018 - Jan 2019

- Updated web layouts using Javascript, React, HTML, and CSS to help enterprises make adapted websites for mobile clients, modified functionalities of the websites, and built login pages with user authentication and routing for the lottery applet

Jiangsu Holly Futures Co., Ltd | Options Research Associate Intern | Nanjing, China Jul 2018 - Aug 2018

• Analyzed macro trend, time period, and contract size for main futures contracts from 2015-2017 with data from Wind using MATLAB, modified deal price of European bean call options based on Black-Scholes Model, and researched volatility smile based on SABR model using Python

ACTIVITIES

JCBC Culture Show (Sept 2019 - Nov 2019) : Performed traditional Japanese fan dance with 9 members at culture show

"Economics in Games" Club (Sept 2017 - May 2018) : Led weekly discussions of 12 members in economic systems in "Eve"

PUBLICATIONS

- R. Yang, **Z. Zhou**, L. Tseng, M. Aloqaily and A. Boukerche, "Efficient and Robust Top-k Algorithms for Big Data IoT," *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, 2020, pp.1-6.

SKILLS

- Programming: Python (sklearn, numpy, pandas, pytorch, Django), Javascript (React, Node.js, d3.js, npm), SQL, GoLang, Firebase, Java, C, R, Tableau, Vega-Lite, HTML, Excel VBA, MATLAB, LaTeX, git
- Machine learning: Decision Tree, (Penalized) Regularization, Logistic Regression, Support Vector Machine, K Nearest Neighbors, Random Forest