CATHERINE KUNG

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Experience

Intuit August 2020 - Present
Software Engineer – Machine Learning Platform

- Facilitated the onboarding of a platform backend service onto internal data lake and created dashboards on Kibana to expedite the process by which platform insights are generated
- Redesigned and led the development of a web application plugin used by data scientists and machine learning engineers to manage machine learning models
- Consolidated various platform services into a single user interface, optimizing platform efficiency by centralizing focus and alleviating customer pain point of having to navigate multiple applications
- Redeveloped and open-sourced an internal CLI/SDK (https://github.com/intuit/mlctl) that allows ML Lifecycle operations such as training to be controlled via a single command line interface or notebook environment

Intuit June 2019 - September 2019
Software Engineering Intern

- Assisted in maintaining an internal web application used by tax analysts to create and modify models for calculating tax returns
- Integrated the frontend of the web application with the backend using REST API and React.js, improving performance time by 80%
- Increased the usability of the web application by implementing several React components with Redux framework to accommodate customer needs
- Accelerated testing procedures by developing the test automation infrastructure of the web application, leveraging Selenium, Jenkins, and Docker

Investigating Virtual Learning Environments (IVLE), UC Irvine January 2019 - June 2020
Research Assistant

- Conducted a systematic comparison of machine learning models in predicting academic success to better inform stakeholders regarding the use of predictive models in higher education
- Extracted various combinations of predictors from student clickstream data collected from approximately 2,000 college students and trained 5 machine learning models (including classical and black-box models)
- Evaluated the models under technical and ethical considerations by determining overall predictive accuracy and satisfaction of three fairness criteria: independence, separation, and sufficiency
- Concluded that simpler, more interpretable models do not compromise accuracy and fairness when predicting college academic success and may be a more cost-effective option for stakeholders than complex models

California Institute for Telecommunications and Information Technology (Calit2), UC Irvine Division
Research Assistant January 2018 - June 2019

- Collaborated with team members to devise an interactive Chromecast application that assists users in monitoring workout progress by providing feedback on form and speed of exercises via motion tracking
- Enhanced the user interface of the application by researching the efficacy of sound, color, and animations in motivating users, implemented new features accordingly, and oversaw using testing

TechSmart Academy June 2017 - August 2017
Instructor

- Educated children ages 9-14 on the fundamentals of Python and Java by integrating a curriculum that utilized the video game, Minecraft and modified preexisting functions and characters of the game

Publications/ Presentations

Kung, C., & Yu, R. (2021, January). Interpretable Models Do Not Compromise Accuracy or Fairness in Predicting College Success, presented at IJCAI 2021 Workshop on AI for Social Good.

Kung, C., & Yu, R. (2020, August). Interpretable Models Do Not Compromise Accuracy or Fairness in Predicting College Success. In *Proceedings of the Seventh ACM Conference on Learning@ Scale* (pp. 413-416).

Education

University of California, Irvine June 2020
B.S. Computer Science, Informatics Minor

- **Honors:** Magna Cum Laude (GPA: 3.96), Campuswide Honors Program, Phi Beta Kappa (PBK)
- **Relevant Coursework:** Data Management, Information Retrieval, Data Structure Implementation and Analysis, Computer Organization, Dating Mining, Artificial Intelligence, Algorithms

Skills

Python, Java, C++, C, HTML, CSS, JavaScript, React JS, AWS