YU XU

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EDUCATION

B.S. of Cognitive Science (Spec MachLn & NeurCp)
University of California, San Diego
2020 - 2024

M.S. of Computer Science
University of Chicago
2024 - 2026

EXPERTISE

- Python, Java, C/C++
- Linux/Unix
- Git, Github
- un/supervised ML lmethods
- Python (Pandas, Numpy)
- SQL Server

LANGUAGE

- English
- Mandarin
- Cantonese

WORK EXPERIENCE

Algorithm Engineer Intern   **May 2024 – Aug 2024**

Yixin Technology (Hangzhou)

- Developed the pattern matching functionality for an EDA physical verification tool, **optimizing algorithms** to efficiently identify matching patterns in large-scale chip layouts. Average runtime My pattern match algorithm improves the feature by decreasing ~120s of runtime on medium-sized testing layouts.
- Integrated various library functions to **build a scalable, modular solution** compatible with the broader toolchain, contributing to the overall system architecture.
- **Wrote and executed test scripts** to validate functionality, analyzing performance metrics and ensuring strict compliance with specifications.
- **Conducted performance benchmarking** against industry-standard tool Calibre, ensuring similar or improved time and memory efficiency.

PROJECTS

Analysis of Tobacco User Characteristics and Preferences in the U.S.   **Jan 2024 - Mar 2024**

- Led a comprehensive exploratory data analysis (EDA) using **Python and Pandas** to examine the influence of age on tobacco usage trends across U.S. demographics.
- **Preprocessed datasets**, handling missing data, and ensuring data consistency for reliable statistical modeling and subsequent analysis.
- Applied **statistical models** to assess correlations between age groups and tobacco preferences, utilizing logistic regression and other supervised learning techniques to identify key behavioral patterns.
- Collaborated with team members through **GitHub** for version control and code review, ensuring accurate results and smooth project integration.
- Delivered a detailed final report, presenting findings on user behavior trends, ethical considerations, and potential implications for public health policy.

Model Development to Predict Credit Card Customer Churn   **Sep 2023 - Mar 2024**

- Developed a **predictive model** to analyze customer churn, integrating supervised and unsupervised learning algorithms using Python for data processing and model deployment.
- Led data collection, **preprocessing large datasets**(10127 observations with 23 variables), and **exploratory data analysis (EDA)** to uncover key insights and improve model performance.
- Implemented **K-means** clustering and evaluated model performance with metrics such as F1 Score and Rand Index to ensure high accuracy and reliability.
- Collaborated with team members through **GitHub** for version control and code review, ensuring seamless integration and quality of final deliverables.

EXTRACURRICULAR ACTIVITIES

Member of Calpirg (Student Activist Organization)   **Jun 2022 - Dec 2022**

- Conducted environmental outreach to students, faculty, staff, and other organizations on campus
- Collected petition signatures from approximately 100 college students on environmental policy development
- Exchanged conversations with California District Council members on environmental topics
- Gathered information on members and events and created a database

Instructional Assistant (UCSD CogSci Department)   **Sep 2023 - Jan 2024**

- Conducted Discussion Session (size of ~50 students) for the course "Introduction to Research Methods"
- Participated in the preparation and correction of examination papers and assisted the professor in the course
- Assisted students with applying understanding of research methods on specific academic projects