Dillan Pho

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EDUCATION

BOSTON UNIVERSITY Boston, MA
Bachelor of Arts - Major in Computer Science January 2025
Related Coursework: Data structures, Algorithms, Distributed Systems, Databases, Software Engineering, Networking
Honors: University Scholarship, Dean's List

EXPERIENCE

BU Spark! Boston, MA
Technical Teammate Jan 2024 – May 2024

- Created Python scripts to automate the extraction of tables and other relevant texts from PDFs using PDFplumber.
- Implemented data pipeline to defragment over **800+** pages of text into 1 CSV file, enhancing efficiency and simplifying data processing.
- Streamlined data representation by implementing Geopandas for visualizing 236 Massachusetts high schools on interactive maps, enhancing reader engagement with a personalized touch.
- Utilized correlation matrices and linear regression techniques to identify trends within datasets.
- Applied Nominatim geocoding API and US Census geocoding API to acquire precise geolocation data and validate school locations effectively, facilitating accurate mapping of area median income alongside each high school.

PROJECTS

Keta (Medicine Interaction Application) | React, Python, Javascript, Flask, Firebase

- Led 3-member team in developing a drug interaction web application to inform users of prescribed drugged interactions.
- Achieved microservices architecture to facilitate continuous development with minimal downtime.
- Designed user-friendly web interface for easy sign-up and efficient medication management.
- Integrated Firebase OAuth authentication for enhanced security and user management.
- Managed user data, including medications and conflicts, leveraging Firebase's Realtime Database.

Fraud Detection Model | Jupyter Notebook, Python, Scikit-learn, Seaborn, Matplotlib

- Developed a classification model utilizing Scikit-learn to detect credit card fraud, achieving **99**% accuracy rate and F1 score of **91**%.
- Employed supervised learning techniques, utilizing K-Nearest Neighbors (KNN) as the model and clustering with KMeans and DBSCAN to identify potential features indicative of fraudulent activity.
- Conducted feature engineering to uncover hidden patterns, reducing false positives and enhancing overall precision.
- Refined cross-validation techniques to ensure model reliability and generalizability across datasets.

Toy Language Interpreter | OCaml, Dune, Menhir

- Built robust interpreter in OCaml capable of lexically tokenizing and parsing English input according to a defined BNF grammar specification.
- Implemented type checking to ensure compliance with static typing rules, with detailed error handling for type mismatches.
- Streamlined expression processing by incorporating syntactic desugaring to reduce complex constructs into simpler primitives.
- Enhanced type traceability through the integration of type annotations for clearer debugging and better error reporting.
- Executed efficient evaluation logic to process expressions accurately, while implementing safeguards for runtime and type-related errors.

SKILLS

Programming languages: Python, Java, OCaml, C/C++, JavaScript, HTML, CSS, SQLite
Libraries: Pandas, scikit-learn, NumPy, Matplotlib, React, Selenium, Flask, Next.js
Technical Proficiencies: Amazon Web Services (AWS), Firebase, Docker, MongoDB, Postman, Tableau, Git, Jupyter Notebook