XINYI LI

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EDUCATION

Duke University , Durham, NC — Aug 2023 - Expected May, 2025

Master of Engineering in Electrical and Computer Engineering, Specialization: Big Data & Machine Learning

GPA: 4.00/4.00

Relevant Coursework: *Algorithm Designs, Data Structure, Statistical and Mathematical Machine Learning, Deep Learning and Neural Nets, Software Engineering*

University of California - Davis , Davis, CA — Aug 2019 - Mar 2023

B.S. in Computer Science & Statistics, Specialization in Statistical Data Science, minor in Religious Studies

GPA: 3.85/4.00 | **Dean's Honors List, Graduation with Honors**

Relevant Coursework: *Object-Oriented, Computer Architecture, Web Programming, Database System, Operating System, Programming Languages, Computer Networks, Neural Network, Artificial Intelligence, Probability, Big Data Computing*

SKILLS

Programming: Python, JAVA, C, C++, R, Rust, MATLAB, MySQL, JavaScript, HTML5/CSS, UI/UX, PyTorch, Tensorflow

Tools: Anaconda, Jupyter Notebook, Xcode, Eclipse, Tomcat, Emacs, Visual Studio, IDEA,Postman, Auto-CAD, Linux, MS Office

Languages: English, Chinese

PROFESSIONAL EXPERIENCE

China Construction Bank — Jul 2022 - Sep 2022

Full Stack Software Development Intern — Remote

- Designed and implemented database table structure based on company's business model and workflow using **MySQL** to store customers' insurance data
- Executed **backend** development of business flow system, including functional structure planning, functional subsystem division, model and database implementation utilizing **Java Spring Boot** to connect interface and database
- Maintained **frontend** functions of company's financial web applications through cooperation with PM team on **UIUX** modification
- Cooperated with system analyst using **Postman** to complete the requirements of auto-test to ensure the product launch

ACADEMIC EXPERIENCE

Independent Projects: Data Science, AI and Machine Learning for Animal Noise Exposure — Nov 2023

- Data cleaning for missing values using KNN Imputing; Data mining and filtering for datasets to choose the most correlated variables with different goals; coping with imbalanced data using SMOTE
- Used Supervised **Machine Learning methods** such as XGBoost, Adaboost, Random Forest, Naive Bayes, SVM, Logistic regression to train and test data, parameters tuning to choose the best parameters
- Visualized clear and brief statistical graphs to interpret the results by Matplotlib for each algorithm, including multiple metrics such as Accuracy and F1 score
- Variable Importance Analysis using feature coefficients in algorithms, Out-Of-Bag and scrambling variables

Projects: Shells, Concurrency threading, I/O and File System — Jan 2022 - June 2022

- Followed Linux environment to build primary **shell functions** such as cd, cp, ls, pwd, mkdir, echo, pipe, sls in **C**
- Handled **multiple concurrency threading tasks** containing various states by uthread class in C using **queue** and **signal**
- Designed a **file reading and writing system** with memory management as Super Block in C
- Designed a **Token Reader** with specific syntax and transferred any legal input to HTML file with strict format in **Rust**

Independent Project: C++ Story Interacting Programming — Nov 2023

- Imported valid template files and necessary file contents as different pages with multiple choices in desired format
- Applied object-oriented programming and polymorphism, used function abstraction and multiple classes, updated hidden variables when conditions were met by players
- Displayed each page and conditional choices within the page, let player choose the path, stopped if the player win or lose

Independent Project: Equivalent Regular Expression Identification (Python) — Dec 2023

- Built functions to convert string to **Regular Expression**; convert Regular Expression to **NFA**; develop Epsilon, Simple, Concat, Star and Or NFA for different symbols
- Built transformative function to convert **NFA to DFA**, Complement and Union function for DFA and NFA
- Built function to find the shorted string in DFA by BFS

Independent Projects: CNN and RNN models implementation with PyTorch and TensorFlow — Aug 2023 - current