Jeffrey Chen

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EDUCATION

University of Texas at Austin B.S. Computer Science

TECHNICAL SKILLS

Programming languages: Java, C, C++, Python, x86 Assembly, Swift, HTML, CSS, SQL, Bash, Javascript
Software tools: Visual Studio Code, Google Collab, Google Cloud CodeLabs/FireBase, TensorFlow, Matlab, Android Studio, Git

PROJECTS

Glaucoma Detection Using CNN Model

o Researched state-of-the-art approaches for medical image processing using machine learning o Applied TensorFlow convolutional neural network (CNN) deep learning model for glaucoma detection o Developed a unique algorithm to obtain higher accuracy and better efficiency, achieving 96.5% accuracy o Designed a web app for glaucoma detection

Vacation Prediction Using KNN Model

o Utilized TensorFlow to predict user vacation tendencies based on nationality and location data. o Implemented several data preprocessing techniques to reduce bias and variance. o Engineered several features such as language spoken and nationality to improve prediction model accuracy o Evaluate model performance through cross validation

File Directory System

o Designed a working file system directory to manage files o Applied various performance optimization techniques to improve responsiveness o Utilized metadata management and implemented inodes to store important attributes including permissions to ensure security of the files

Interactive Shell

o Created a working interactive shell in C++ that supports command-line interface for user interaction and input o Researched and employed pipelining to allow command chaining and optimize system performance o Implemented tab completion capability to improve user interaction experience o Wrote a descriptive report detailing the design and implementation processes o Delivered a presentation with interactive demo

chArm-v2 System Emulator

o Developed a working PIPE implementation of the chArm-v2 ISA o Applied various hazard control handling methods including forwarding, squashing, and stalling o Created a cache controller to integrate memory hierarchy into the emulator o Rigorously tested the emulator to ensure expected behavior

Mobile Air Quality Application

o Designed a mobile application that provides air quality data based on user location o Integrated RESTful API to retrieve air quality index data. o Utilized geolocation tools to accurately locate user o Engineered an intuitive, simple to use user interface that with interactive maps and important air quality statistics