Vu Trinh

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EDUCATION

University of Michigan - Ann Arbor, MI Expected April 2024

Computer Science, Bachelor of Science in Engineering, College of Engineering

GPA: 3.855/4.000 | **Honors/Awards**: James B. Angell Scholar, Dean's List, University Honors.

Relevant coursework: Data Structures and Algorithms, Introduction to Computer Organization, Foundations of Computer Science, Web Systems, User Interface Development, Machine Learning, Programming Paradigms, Advanced Operating Systems, Human-Centered Software Design and Development.

SKILLS & CERTIFICATIONS

Languages: C++, Swift, Python, SQL, HTML/CSS/SASS, JavaScript, Golang.
Frameworks/Libraries: STL (up to C++20), SwiftUI, Flask, Jinja, Node.js, React JS, Vue JS, Bootstrap, Express.js, REST API.
Tools/Technologies: Git, Firebase, Sanity, JIRA, Figma, Xcode, Visual Studio Code, IntelliJ.
Operating Systems: Pop! _OS/Ubuntu Linux, MacOS.

WORK EXPERIENCE

Uber Technologies, Inc. - Software Engineer Intern | San Francisco, CA May 2023 – Aug. 2023

- Decreased global outages by 25% and time needed to mitigate outages by 40% by designing and building a new service called Global Rate Limiter, which can set limits for traffic.
- Contributed to a $2M saving effort by reducing unnecessary logging in the Golang codebase.
- Conducted comprehensive validation, unit testing, and integration testing in Go to ensure the reliability and functionality of the implemented solution.
- Performed extensive design research and cost analysis; wrote internally reviewed documentation on the pipeline's infrastructure design.
- Utilized: Golang, gRPC, Protobuf.

Rocket Homes - **Software Engineer Intern** | Detroit, MI Jun. 2022 – Aug. 2022

- Increased the Rocket Homes app's traffic and rating on the App Store by 15% by building new features such as "Coming Soon" listings and Username Conversion.
- Reduced the app's crash rate to less than 0.2% by identifying and fixing bugs.
- Assisted other engineers in building the app more efficiently and avoiding duplicated code, which reduced the product delivery time by 10%, by incorporating the SwiftUI framework into the UIKit-based app and building reusable SwiftUI views.
- Utilized: Swift, SwiftUI, UIKit, Mapbox, MapKit, Firebase.

PROJECTS

Multiprocessor Thread Library (C++20)

- Implemented a kernel-level thread library supporting the creation of threads, synchronization mechanisms including mutex, condition variable, semaphore, upgradable reader/writer mutex, and RAII lock wrappers, and stop token.
- Designed a priority-based scheduling mechanism favoring interactive workloads by tracking a thread's CPU time.

Image Classifier (Python, NumPy, Pandas, Matplotlib, Scikit, PyTorch)

- Built a Convolutional Neural Networks model, which can classify face gesture images with an accuracy of 80%, by applying a stratified k-fold cross-validation technique to test against 8 different datasets.

Instagram Clone (Python, Flask, Jinja, SQLite, HTML/CSS, JavaScript, React JS)

- Built a clone of Instagram, which allows users to connect and interact with others, by utilizing SQL database to store and retrieve the data and building user interfaces with React JS.
- Implemented 10+ REST API endpoints for the application by utilizing SQL database and Flask.

City Explorer iOS App (Swift, SwiftUI, MapKit, CoreLocation, Yelp API, MVVM Architecture) | GitHub

- Developed a city guide app, which suggests the best places to visit based on the user's location, by retrieving the data from the Yelp API and building user-friendly interfaces.

Piazza Classifier (C++)

- Implemented Naïve Bayes Classifier machine learning algorithm, which can classify categories of Piazza posts with an accuracy of 85%, by training on a data set of 10,000+ past posts.