github/quocduyvu6262
linkedIn/duyquocvu

Duy Vu

(309) 585-5052
quocduyvu6262@gmail.com

Experience

IOS Developer, Intern — **San Diego Supercomputer Center** — **Fall 2022 - Winter 2023**

- Worked with a team of 10 to create an IOS mobile app that enables non-medical communication between neuroscience residents and attending physicians.
- Developed a journals page using **SwiftUI** that includes a built-in calendar view. This feature enables users to view and navigate between articles conveniently.
- Employed a **Go** web application and **Docker** to handle the client API and create a dynamic user comment section within a journals page.
- Managed notifications by sharing relevant data with other views in the IOS app, both when the app is running in the foreground and when the user interacts with a notification.

Back-End Developer, Intern — **Summer 2022 – Fall 2022**

- Collaborated with a team of 6 to develop a roommate-finder app for Android and IOS in React Native while following the Agile Scrum methodology. My main focus was adding new features to the app's back end and integrating them with the front end.
- Created a user-filtering algorithm in **Node.js** that utilized **MySQL** queries on our Ubuntu server. This resulted in an improved user experience in finding suitable roommates.
- Implemented user authentication using **Firebase** Authentication, allowing users to sign up and log in to the application securely.
- Utilized **Firebase** Cloud to design and develop an in-app messaging system for real-time and direct user communication.

Projects

- **Food Recommender System** (2022). Built a recommender system that predicts the user's rating on a specific food recipe. Developed the Logistic Regression and Bag of Words model using user's review text and Natural Language Processing. Python, TensorFlow.
- **Note Taking App** (2022). A Personal note-taking app that enables users to share their notes while maintaining their own notes. Developed main dashboard and note editor as a back-end developer. Javascript, HTML/CSS.
- **Ray Tracer** (2022). Developed a basic ray tracer in C++ to simulate the interaction of light with objects in a virtual scene. Defined the scene, generated rays for each pixel in the image, and computed ray-object intersections to determine the color of each pixel. Implemented features such as reflections, shadows, and ambient lighting. C++, Data Structures.
- **Huffman Coding** (2022). Implemented a tool to compress and decompress files using Huffman Coding. Used Binary Tree serialization to optimize compressed file's header size by 80%, leading to a 20% increase in overall run-time. C++, Object-Oriented Design.

Education

San Diego, CA — **University of California, San Diego** — **Fall 2021 – Fall 2023**

- B.S. in Mathematics and Computer Science. Major GPA: 3.7.
- Undergraduate Coursework: Advanced Data Structures and OO Design, Software Engineering, Design and Analysis of Algorithms, Computer Organization and Systems Programming, Computer Graphics, Recommender System, Theory of Computability, Discrete Mathematics, Graph Theory, Statistical Methods.

Languages and Technologies

- C/C++, Java, Python, JavaScript, Swift, Go, SQL
- Node.js, React, Django, AWS, .NET, Docker, Git, Firebase, Azure, TensorFlow