Ha Binh Nguyen

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EDUCATION

Arizona State University, Ira A. Fulton Schools of Engineering | Tempe, AZ   Expected Graduation December 2024
Bachelor of Science in Computer Science   **Cumulative GPA:** 4.15/4.0
Honors and Awards: New American University Scholar's Scholarship for Undergraduates ($56,000)

EXPERIENCE

Oryza Systems   May 2023 – Jul 2023
Software Engineer Intern
• Constructed a Video Management System (VMS) using Qt C++ to enable real-time monitoring of IP cameras, review of video recordings, and intelligent video analysis by implementing video and image processing AI models
• Upgraded the VMS to support 32 simultaneous camera streams, up from 1 stream, using OpenCV, FFmpeg, and C++ multi-threading techniques. Optimized performance enabling image processing on basic hardware with no external GPU needed
• Analyzed and integrated UI features from open-source Nx-Meta to the project, enhancing user interface and experience
• Collaborated with 5 other engineers to develop RESTful APIs for login, and data management based on the CRUD principle. Implemented real-time intelligent video analysis using WebSocket connections for data transfer between server and client.

Arizona State University   Jul 2022 - Present
Resident Assistant
• Organized 10 events per semester to foster community and build relationships among dorm residents
• Collaborated with Resident Assistants to develop workshops on topics like substance abuse prevention and diversity
• Managed and mentored 60 first-year students, ensuring their well-being and enforcing campus policies

PROJECTS

YelpCamp (Fullstack app built with MERN stack) (bit.ly/binh-yelpcamp)   Jun 2023 – Aug 2023
• Developed a dynamic full-stack web application, YelpCamp, leveraging cutting-edge technologies such as Node.js, Express.js, MongoDB, Bootstrap and JavaScript. App implemented CRUD functionality and Model–view–controller design pattern.
• Implemented user authentication and authorization with Passport.js. Designed to avoid common security attacks such as Mongo injection or Cross-site scripting. Ultilized Sessions to establish secure login system and ensure seamless user experience
• Created a database schema to store campground information, user details, and user reviews using MongoDB and Mongoose
• Integrated the Mapbox API to enhance the application by providing interactive campground maps

My Portfolio Website (https://ezngbi.github.io/personal-portfolio/)   May 2023 – Jun 2023
• Developed a responsive portfolio website with React and implemented advanced animations using CSS and React Bootstrap
• Utilized React components and state management techniques to ensure a modular and maintainable codebase

VivyNet AI Research Lab at ASU   Feb 2023 - Present
• Developed an AI model on Python that translates text input into music using an encoder-decoder architecture with BERT as the encoder and SymphonyNet as the decoder
• Collaborated with the team of 4 people to compare the performance, efficiency, and accuracy of the encoder-decoder model with the lab's primary transformer model for text-to-music translation

Game 2048 clone (https://ezngbi.github.io/2048Clone/)   Sep 2022 – Oct 2022
• Developed a clone of the popular game 2048 using JavaScript (ES6), implemented Object-Oriented Programming concepts and Asynchronous Programming (async/await and promises)
• Designed the game to be responsive, and implemented dynamic updates for the game's data on the frontend

AWARDS

Devils Invent: Land, Air and Sea (Hackathon) - *3rd Prize Winner*   Nov 2021 - Dec 2021
• Developed a system to convert conventional shipping containers into collapsible ones and created a website to guide truckers to the nearest machine location to address the congestion of shipping cargo caused by COVID-19