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: NAmU's Scholarship ($56,000), Devils Invent: Land, Air and Sea (Hackathon) - *3rd Prize Winner* ($500)

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

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 — Aug 2023 - Present
Undergraduate Teaching Assistant – CSE 230
• Assisted professor in concepts like assembly language, instruction sets, registers, memory operations, exception handling, and processor organization and design.
• Assessed students' assembly code assignments, checking for optimal use of registers and memory and offered targeted feedback on students mistakes. Guided students through the intricacies of debugging in assembly language.

Arizona State University — Jul 2022 - Present
Resident Assistant
• Organized 10 events and worked with a team of 40 RAs to foster community and build relationships among dorm residents
• Managed and mentored 60 first-year students, ensuring their well-being and enforcing campus policies

SKILLS

• **Programming**: JavaScript, C/C++, Java, Python, HTML, CSS, Typescript
• **Frameworks/Libraries**: MongoDB, Express.js, React.js, Node.js, Bootstrap, Qt C++, Mongoose, Passport.js, Ffmpeg, Opencv
• **Tools:** Postman, Github, Heroku, Cloudinary, Eclipse, Vim, Visual Studio 2022