DUONG HOANG VU

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EDUCATION

Iowa State University (Ames, IA) *Expected Graduation: December 2022*
Bachelor of Science in Computer Science *Major GPA: **3.7**/4.0*
Honors: *Dean's List (4 Semesters)* *Cumulative GPA: **3.65**/4.0*
Skills: *Agile, Scrum, Google Cloud Run, ReactJS, Spring Boot, Flask, NodeJS* **Languages**: *Java, JavaScript, Python, C, C++*
Coursework: *Design and Analysis of Algorithms, Software Development Practices, Construction of User Interfaces*

PROJECTS

Facial Detection Live Streaming Web App *December 2021 – January 2022*
Personal Project (On Glyochi.com ~~ Deployed with Cloud Run) *Ames, IA*
o Ported my facial detection project below onto the web by using *ReactJS* for the frontend and *Flask* for the backend
o Increased video playback smoothness and minimized jittering by 10% by displaying frames at the appropriate time
o Reduced facial detection time in the server by 50% by handling resizing and gray scaling the image in the frontend
o Decreased server's response size by 95% by only sending the faces' coordinates and rendering them on the frontend

Golfer Social Media App *August 2021 – November 2021*
Com S 309 Project (On Github.com/Glyochi) *Ames, IA*
o Developed an android app using *Android Studio* for the UI, *Spring Boot* for the server, and *MySQL* for the database
o Structured the frontend and backend using the *MVC-Service* design pattern for easier maintenance and scalability
o Designed the *REST API* and business logic to provide all the functionalities the app needs
o Implemented a real-time public chat room for the app users using WebSocket
o Used *CI/CD* to automatically build, run *Mockito* tests, and deploy the server

Ray tracer *August 2021 – November 2021*
Com S 336 Project (On Github.com/Glyochi) *Ames, IA*
o Created from scratch a ray tracing engine that can generate realistic images using *C++*
o Improved images' quality and reduced noises by implementing anti-aliasing
o Increased color accuracy by implementing ray's bouncing property and materials' reflective properties

Tilted Facial Detection *June 2021 – August 2021*
Personal Project ~~ Python (On Github.com/Glyochi) *Ames, IA*
o Refined OpenCV haar-cascade to better detect tilted faces by 30% by doing selective scans in different orientations
o Alleviated workload on the CPU and increased performance by 100% by incorporating multithreading into the program
o Designed and implemented custom debugging tools to help fix bugs and boost development speed

Tetris Web Application *July 2020 – August 2020*
Personal Project (On Glyochi.com) *Ames, IA*
o Created a Tetris web app with gameplay as close as possible to Tetris 99 using *JavaScript*
o Designed and implemented the game engine to simulate Tetris 99 physics and sound effects
o Reduced web browser's workload by engineering a graphic engine that only re-renders parts that are necessary

LEADERSHIP

Computer Science Help Room *August 2021 – Present*
Tutor *Ames, IA*
o Assisted students with comprehending all core Computer Science courses by identifying their knowledge gaps
o Guided students by reminding them of concepts taught in class or giving them examples of similar problems
o Taught students the problem-solving skills required for them to succeed in their courses

VISA Club *August 2019 – Present*
Event Organizer *Ames, IA*
o Reached out to new incoming international Vietnamese students to recruit them for the club
o Planned and organized gatherings on special occasions for club members to participate
o Supported club president with managing club's budget