DUONG HOANG VU

github.com/Glyochi · **Glyochi.com**

2419 Bruner Dr, Apt 118B, Ames, IA +1 (515) 715-7092 · duongvh1806@gmail.com

https://www.linkedin.com/in/glyochi/

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

PROJECTS

Facial Detection Web App *December 2021 – January 2022*

- Ported my previous facial detection project onto the web by using **ReactJS** for the frontend and **Flask** for the backend
- Increased video playback smoothness and minimized jittering by 10% by displaying frames at appropriate time
- Reduced facial detection time in the server by 50% by handling resizing and gray scaling the image in the frontend
- Decreased server's response size by 95% by only sending the faces' coordinates and rendering them on the frontend

Golfer Social Media App *(Com S 309 Project)* *August 2021 – November 2021*

- Developed an android app using **Android Studio** for the UI, **Spring Boot** for the server, and **MySQL** for the database
- Structured the frontend and backend using the **MVC-Service** design pattern for easier maintenance and scalability
- Designed the **REST API** and business logic to provide all the functionalities the app needs
- Implemented a real-time public chat room for the app users using WebSocket
- Used GitLab **CI/CD** to automatically build, run **Mockito** tests, and deploy the server

Ray tracer *(Com S 336 Project)* *August 2021 – November 2021*

- Created from scratch a ray tracing engine that can generate realistic images using **C++**
- Improved images' quality and reduced noises by implementing anti-aliasing
- Increased color accuracy by implementing ray's bouncing property and materials' reflective properties

Facial Detection *(**Python** + **OpenCV**)* *June 2021 – August 2021*

- Refined OpenCV haar-cascade to better detect tilted faces by 30% by doing selective scans in different orientations
- Alleviated workload on the CPU and increased performance by 100% by incorporating multithreading into the program
- Designed and implemented custom debugging tools to help fix bugs and boost development speed

Tetris Web Application *July 2020 – August 2020*

- Created a Tetris web app with gameplay as close as possible to Tetris 99 using **JavaScript**
- Designed and implemented the game engine to simulate Tetris 99 physics and sound effects
- Reduced web browser's workload by engineering a graphic engine that only re-renders parts that are necessary

CAMPUS ENGAGEMENT

Computer Science Help Room Ames, IA

Tutor *August 2021 – Present*

- Assisted students with comprehending all core Computer Science courses by identifying their knowledge gaps
- Guided students by reminding them of concepts taught in class or giving them examples of similar problems
- Taught students the problem-solving skills required for them to succeed in their courses

VISA Club Ames, IA

Event Organizer *August 2019 – Present*

- Reached out to new incoming international Vietnamese students to recruit them for the club
- Planned and organized gatherings on special occasions for club members to participate
- Supported club president with managing club's budget

SELECTED SKILLS

Com S 309: Software Development Practices
Com S 319: Construction of User Interfaces
Com S 331: Theory of Computing
Frameworks: ReactJS, Spring Boot, NodeJS, Flask, Android Studio
Com S 230: Discrete Computational Structures
Com S 311: Introduction to the Design and Analysis of Algorithms
Com S 321: Introduction to Computer Architecture and Machine-Level Programming