BRIAN LAI

Hayward, CA, USA
brianlai30@outlook.com http://www.bhlai.com
https://www.linkedin.com/in/blai https://www.github.com/blai30

EDUCATION

San Francisco State University – *San Francisco, CA* **August 2016 – May 2020**

Bachelor of Science in Computer Science

- **Coursework:** Data Structures, Discrete Mathematics, Machine Structures, Web Software Development, Programming Methodology, Operating Systems, Analysis of Algorithms, Programming Languages, Software Engineering, HCI, Multiplayer Game Development, UNIX Embedded Systems, Linear Algebra, Calculus, Physics with Lab
- **GPA:** 3.53

SKILLS

Coding Languages	C#, Java, C++, Python, HTML, CSS, JavaScript, TypeScript, SQL, Swift, Ruby, PHP, Assembly
Technologies	Maven, Gradle, Angular, NodeJS, ReactJS, VueJS, ASP.NET Core, Selenium
Tools	Linux, JetBrains, Visual Studio, Unity, Godot, Xcode, Bootstrap, AWS, GCP, Azure, Docker
Spoken Languages	English, Vietnamese, Japanese

EXPERIENCE

Teaching Assistant – *Department of Computer Science, San Francisco* **August 2019 – May 2020**

- *TA for CSC 256*: Machine Structures, graded bi-weekly MIPS assignments and exams for 60+ students. Provided assignment assistance by answering questions and clarifying instructions.

SELECTED PROJECTS

Infection FPS Game **May 2020**

- Worked in a *team of 8* to create a *multiplayer first-person shooter* game in *Unity C#*.
- Wrote and edited *game design document* to serve as a living blueprint for the development cycle of the game.
- Implemented multiplayer lobby and gameplay functionality using *Mirror High-Level Networking API*.

Self-Driving Car Robot **May 2020**

- Worked in a *team of 4* to build an *autonomous self-driving robot car* with *Raspberry Pi*.
- Built *multithreaded* functionality to power and drive the robot in *C* using various sensors and interfaces.

Mecha Fighter VR Game **December 2019**

- Worked in a *team of 5* to create a *multiplayer virtual reality fighting game* in *Unity C#* using the *SteamVR SDK*.
- Wrote and edited *game design document* that details core components of the game and lists functional requirements.
- Built controller *motion gesture detection system* to trigger game events and send over the network.
- Implemented *networking* using custom server written in *Java*.

BaySpace Image Posting Web App **August 2019**

- Worked in a *team of 8* as the *GitHub manager* to build a *full-stack web CRUD application*.
- Wrote and edited *project documentation* that lists requirements, milestones, and functionality for the application.
- Built the server with *RESTful API* using *NodeJS, ExpressJS, Amazon Web Services, and MySQL database backend*.
- Built account registration system with *password encryption* and authentication for *uploading images*.
- Built admin page with basic *CRUD capabilities* to modify database entries submitted by users.

Games – Bomberman and Tanks **May 2019**

- Designed two structured interactive games using *Java 11 Swing GUI toolkit* for two or more players.
- Developed fast *collision detection system* that runs every frame using the *Visitor design pattern*.
- Developed unique algorithms to calculate 4-direction bomb explosions based on nearby collisions.
- Wrote *instructional documentation* to teach users how to play, also includes *class diagrams* and explanations.