BRIAN LAI

brianlai30@outlook.com | 510-303-0786 | Hayward, California
https://www.linkedin.com/in/blai/ | https://github.com/blai30 | https://www.bhlai.com/

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 Development, Programming Methodology, Operating System Principles, Analysis of Algorithms, Programming Languages and Paradigms, Software Engineering, Human-Computer Interaction (HCI), Multiplayer Game Development, UNIX Embedded Systems, Linear Algebra, Probability and Statistics
- **GPA:** 3.53

SKILLS

Coding Languages	C#, Java, TypeScript, JavaScript, Python, C++, SQL, HTML, CSS
Technologies	ASP.NET Core, MySQL, Angular, React, NextJS, NodeJS, Blazor, Selenium
Tools	Linux, Unity, Tailwind CSS, Bootstrap, Amazon Web Services, Google Cloud Platform, Docker
Spoken Languages	English, Vietnamese, Japanese

EXPERIENCE

Grader – *Department of Computer Science, SFSU*   **August 2019 – May 2020**

- *Grader for CSC 256*: Machine Structures. Graded bi-weekly MIPS assembly assignments and exams for 60+ students.

FEATURED PROJECTS

.NET Discord Bot   **February 2021**

- Developed a Discord bot in *C#* with *.NET* using the *Discord.Net library* and *Dependency Injection*.
- Built *REST API* backend with *ASP.NET* to communicate with *MySQL* database using *Entity Framework Core*, and *MediatR*.
- Tested, built, and deployed application in *Docker containers* with bridged network between containers.
- Configured *database migrations* using versioned .sql files with *Flyway* to keep database schema up to date and synchronized.

Text Morph   **April 2021**

- Created client-side *web application* to transform user text input with *Angular*, *TypeScript*, and *Tailwind CSS*.
- Built and deployed application to the public served statically on *GitHub pages*.
- Added *Progressive Web App* support to enable offline installation on *mobile and desktop*.

Infection FPS Game   **May 2020**

- Worked in a *team of 8* to create a *multiplayer first-person shooter* game in *Unity C#*.
- Built weapon system featuring *3D animations* and custom *graphics shaders*.
- Implemented online *server-client architecture* network communication using *Mirror Networking*.
- Wrote and edited 26-page *game design document* to serve as a living blueprint for the development cycle of the game.

Self-Driving Car Robot   **May 2020**

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

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*.
- Built the server-side backend *REST API* using *NodeJS, ExpressJS, and MySQL database* and deployed on *AWS EC2 Linux VM* instance.
- Built account registration system with *password encryption* and authentication for *uploading images*.
- Built admin page with basic *CRUD capabilities* to modify image postings submitted by users.
- Wrote and edited *project documentation* that lists requirements, milestones, and functionality for the application.

Bomberman and Tanks Java Games   **May 2019**

- Designed two structured interactive games using *Java 11 Swing GUI toolkit* for two or more players.
- Developed fast *collision detection* physics using the *Visitor design pattern*.
- Developed unique *algorithms* to calculate 4-direction bomb explosions based on nearby collisions.