Laurence Timothy M. Garcia

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Education

COMPUTER SCIENCE B.S. | CAL POLY POMONA, POMONA, CA | AUG. 2020 – DEC. 2023

- GPA: 3.82
- Dean's List & President's List: All Semesters
- CPP Game Development Club - Secretary (21-22), President (22-23)

Skills

PROGRAMMING

- Python, Java, C#, Javascript, Kotlin, C++, HTML, CSS, MIPs Assembly, GDScript

TOOLS

- React, .NET, MongoDB, Django, MySQL, AWS, Git/GitHub, Unity, Unreal, Android Studio, ShotGrid, Blender, WebGL, THREE.js, Processing, Godot

Work Experience

ANIMATION TECHNOLOGY INTERN | NICKELODEON ANIMATION STUDIOS | JUN. 2023 – AUG. 2023

- Built internal web tools and rendering scripts as a software developer to assist animation teams at Nickelodeon.
- Developed a UI tool leveraging React.js for the frontend and Python Shotgrid API for the backend, resulting in a significant 50% acceleration in the configuration of an internal transcoding tool for all Nickelodeon productions.
- Programmed an EDL report from a post production edit to compare with contents from files in Shotgrid.
- Monitored Deadline render farms to assist users with job status and interpreting error messages.
- Met with 10 different production teams to find what they require support for or feedback on tools produced.

Independent and Collaborative Projects

FULL STACK WEB APPLICATION | VGBACKLOGS.COM | SEPTEMBER 2023 – PRESENT

- Developed a full stack web social platform for users to share their video game catalogs with other users.
- Leveraged React.js and MUI components for a responsive front-end, with a C# DotNET backend connected to a MongoDB database, deployed through AWS servers.
- Implemented the user profile system, including account authentication, following users, & saving games to profiles.
- Utilized MobyGames API to create a games catalog that spans all gaming systems and the latest products releasing.

C# UNITY PROCEDURAL GENERATION | PROCEDURAL TERRAIN GENERATOR | MAY 2023 – PRESENT

- Programmed a custom procedural terrain generator in Unity using Perlin noise.
- Implemented features enabling users to customize the terrain to their needs, from mountain ranges, canyons, etc.
- Designed a custom shader to enable the terrain to have various textures based on elevation.

C# UNITY VIRTUAL REALITY PROJECT | VR DRONE FLIGHT TRAINING PROGRAM | FEB. 2023 – MAY 2023

- Collaborated with a team of 7 people on the development of a Drone Flight Training Program in Virtual Reality.
- Programmed core mechanics such as drone controls, objective system, and player/drone perspective switch.
- Programmed and implemented drone regulation warnings such as elevation and proximity regulations with a scoring system to provide feedback to the user.

KOTLIN ANDROID APPLICATION | PROMINENT COLORS | DEC. 2022

- Designed, programmed, and published an Android app that can take an image, from a photo gallery or the user's camera, and find the top 5 most used colors by pixel in the image.
- Programmed an algorithm that uses a HashMap to keep track and sort the colors and its frequency.
- Published on the Play Store and added interstitial advertisements when the user wants to scan another image.

PYTHON MESSAGING BOT | ALIGNMENT BOT | JAN. 2022

- Implemented a messaging bot that takes the user's last 100 messages and rates it on a morality system.
- Utilized Discord.py API to develop and deploy the messaging bot.

C# UNITY PROJECT | WE PLAY TANKS! TANKS! | SEPT. 2021 – NOV. 2021

- Led a team of 6 people to recreate Wii Play Tanks Minigame, a top-down 3D shooter, over the course of a semester.
- Programmed core mechanics such as movement, shooting, and enemy AI.
- Programmed internal level reader tool to help speed up development of levels.

UNITY GAME JAM | STICK TO IT | JUN. 2021

- 2D puzzle platformer created under 48 hours in collaboration with 3 other team members.
- Programmed movement and shooting 2 blocks to bring them together.
- Designed levels to show emphasize the variety of functions to bringing platforms together.

UNITY GAME JAM | CHACHI | OCT. 2022

- First Person Survival Horror solo developed under 48 hours.
- Programmed player movement and AI pathfinding logic and state machine.
- Designed and modeled level for player to traverse.

FRONT-END WEB DEVELOPMENT | PORTFOLIO WEBSITE | JAN. 2023

- Developed a personal website to present all my projects in one place. Hosted the site on GitHub Pages.
- Designed and programmed language using HTML, CSS, JavaScript, and implemented WebGL using the THREE.js API.

JAVA RAYTRACER STUDY | RAYTRACER | AUG. 2022 – DEC. 2022

- Programmed a raytracer using the Java Processing library that can produce images consisting of various geometric primitives and combining them with a phong lighting model, reflections, and UV texture mapping.

PATHFINDING AND NAVMESH STUDY | GAME AI AGENT MOVEMENT STUDY | SEPT. 2022

- Programmed a Java 2D AI agent to traverse a NavMesh in the shortest path using the A* algorithm
- Programmed an algorithm to automatically develop a triangulated NavMesh based on the available walls.

JAVA PROCEDURAL GENERATION | MAZE GENERATION STUDY | DEC. 2022

- Programmed a modified version of Prim's algorithm to procedurally generate randomized mazes in Java

Leadership

CPP GAME DEVELOPMENT CLUB | AUG. 2020 – PRESENT

PRESIDENT (2022-2023) & SECRETARY (2021-2022)

- Organized a series of panel interviews with various tech and gaming companies, including Avenda Health, Dynamic Augmented Solutions, Obsidian Entertainment, Sony Santa Monica, Activision, and Riot Games.
- Hosted a Halloween Themed Game Jam in October 2022 resulting in 7 games created from the jam.
- Oversaw development of 7 game projects in the Fall 2022 semester and 8 game projects in the Spring 2023 semester.
- Hosted various workshops to teach club members topics like scripting in Unity, Blender, and Github Repositories.
- Collaborated with various College level Game Development clubs across the United States to host a national game jam.