Kia **Kalani**

Software Developer

Ottawa, ON

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Education

Carleton University *Ottawa, ON, Canada*

Computer Science Computer Game Development Stream B.C.S. Honours *Sep. 2019 - Feb. 2024*

- CGPA: 3.9/4
- Entrance Scholarship

Skills

Languages and Frameworks	Python, C/C++, C#, JAVA, Node.JS, Haskell, Prolog, SQL, QT, MongoDB, Flask, Express, Pandas, numpy, CSS, Bootstrap, HTML5, OpenGL, GLSL, Regex, SQLAlchemy
Tools and Operating Systems	Linux, Windows Server, Git, Bash, Powershell, vim, valgrind, gdb, Azure DevOps, Unity, Godot

Experience

Carleton University *Ottawa, ON*

Teaching Assistant for COMP4601 *Sep. 2023 - Present*

- Held office hours to guide students with topics such as implementing search engines and recommendation systems.
- Graded assignments and provided constructive feedback.

Motorola Solutions *Gatineau, QC*

Cybersecurity and Infrastructure Co-op *Sep. 2022 - Apr. 2023*

- Developed a Web Application using Flask and Python for automating the process of reporting vulnerabilities associated with projects.
- Unit tested the Web application and increased code coverage by 28%.
- Developed a SQL database for configuration of a Web Application.
- Developed scripts for Github actions and Azure DevOps for automating tasks.
- Incorporated OWASP top 10 to implement applications more securely.
- Utilized OWASP ZAP for pen testing the application to minimize vulnerabilities.

Carleton University *Ottawa, ON*

Teaching Assistant for COMP1406 *Jul. 2022 - Aug. 2022*

- Graded assignments and provided constructive feedback to improve understanding of students about Object Oriented Programming in Java.
- Guided students through tutorial sessions to further improve their understanding about course materials.

Carleton University *Ottawa, ON*

Teaching Assistant for COMP2501 *Jan. 2022 - Apr. 2022*

- Held office hours and tutorial sessions to guide students with topics such as developing GLSL shaders, OpenGL, and object oriented programming in C++.

Cisco Systems *Ottawa, ON*

Software Engineer Co-op *May. 2021 - Dec. 2021*

- Developed Unit tests for IOS-XE operating system to have a more convenient debugging environment.
- Programmed PyATS parsers using regular expressions to ease the development of unit tests.
- Implemented a native program for IOS-XE to generate SRV6 topolgies from the desired output and further debug the operating system.

Carleton University *Ottawa, ON*

Teaching Assistant for COMP1501 *Jan. 2021 - Apr. 2021*

- Held office hours and helped students with topics such as game design and development of finite state machines to increase their knowledge about those topics.

Carleton University *Ottawa, ON*

Teaching Assistant for COMP1005 *Sep. 2020 - Dec. 2020*

- Held tutorials and office hours to guide students with fundamentals of programming using python.
- Graded assignments and ran plagiarism check to provide a feedback to the instructor about performance of students.

Certifications

Configuring and Installing Windows 8 (70-687), Configuring and Installing Windows Server 2012R2 (70-410), Administering Windows Server 2012R2 (70-411), Configuring advanced Windows Server2012R2 (70-412), Network+, OWASP Top 10 in Python

Applied Projects

Backgammon AI competition

Honours Project — *Sep. 2023 - Dec. 2023*

- Developing a flask server using python to create an interactive environment for the users.
- Using sqlite to store the configurations and required data from the users.
- Utilizing web sockets so users would be able to chat at real time.
- Containerizing code provided by users to compete in a real time game.
- Pen testing the code using OWASP ZAP to minimize security vulnerabilities.

The Neutral Space

Personal Project — *May. 2022*

- Developed a 3D space game using OpenGL and C and GLSL for the shaders
- Implemented transformation and rotation of vertices to create a 3D environment.
- Implemented camera for displaying the transformed vertices in their appropriate spot through the screen.
- Developed 3D collision detection for players to interact with the game.

Litter Bugs

School Project — *May. 2022 - Aug. 2022*

- Participated in a team of 10 to develop a 3D game using Unity Game Engine.
- Created prefabs for various NPCs and implemented unique mechanics for them.
- Developed finite state machines for NPCs to interact with the players.
- Participated in various agile meetings to plan the upcoming sprint and discuss the general progress.

Oasis Pro Simulator

School Project — *Mar. 2022 - Apr. 2022*

- Led a team of four to implement a simulator for Oasis Pro CES device using QT and C++.
- Held weekly scrum meetings to check up on the progress with the project.
- Implemented simulation of Power, Battery, and recording functionalities.

Land of Aliens

School Project — *Nov. 2021 - Dec. 2021*

- Developed a 3D game using OpenGL and C++.
- Implemented Phong lighting model to illuminate objects in the game.
- Developed interactive NPCs to give player more challenges.
- Created screen effects for scenarios where player is low on health to make the game more interactive.
- Created particle effects to demonstrate collectible items.
- Generated a precedural texture using perlin noise to make the terrain unique looking.

Connect4Express

School Project — *Sep. 2020 - Dec. 2020*

- Developed a multiplayer Connect4 game using Express from Node.JS.
- Implemented a public chat room to allow real time communications with Socket.io.
- Implemented a REST API to organize the web application.

SudokuSolver

Personal Project — *Mar. 2020 - Mar. 2020*

- Developed an interactive sudoku game using Java and JavaFX.
- Implemented a backtracking algorithm that solves the sudoku.

Volunteer Experience

BattleRoyale Game Jam — *Ottawa, ON*

OpenGL Game Development Speaker — *Mar. 2022 - Mar. 2022*

- Provided a speech about game development in OpenGL to inform the audience about the advantages and disadvantages of utilizing OpenGL without a game engine
- Demonstrated the concepts through slides to ensure the audience comprehends the details about the graphics pipeline