# Craig W. Karinen Jr.

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## EDUCATION

**Kettering University** **Flint, Michigan**
*Bachelor's in Computer Science, Minor in Business* ***July 2020 - Sep. 2024***
*Kettering Gamer's Society - President (2023-2024)*
*Kettering Investment Club - President (2023-2024)*
*Kettering Radio Club - Event Planning and Marketing (2023-2024)*

## PROFESSIONAL EXPERIENCE

**General Inspection** **Davisburg, Michigan**
***Software Validation Engineer*** ***May 2025 – Oct. 2025***

Worked with the software team to conduct UI and feature testing on software build releases. Identified and fixed numerous bugs, helping to stabilize new build releases. Collaborated with other software team members to test experimental software features and changes. Worked with other departments to perform testing on sample parts and to address bugs found on customers' machines.

- Audited internal software releases, documenting the steps taken and the issues found.
- Tracked down bugs and implemented software fixes.
- Maintained features by fixing major issues and restoring broken functionality.
- Created extensive software testing documentation, such as test reports and procedures.
- Used camera-based inspection equipment to perform GRR testing and analysis on parts samples.

***Application Engineer*** ***Feb. 2025 – May 2025***

Worked closely with marketing to understand the customer's needs. Used sample parts to create data-driven reports that highlighted our ability to build a machine for the customer's parts and specifications. Assisted service and production in modifying or calibrating machines. Worked with service members to perform several parts runoffs.

- Wrote detailed test reports that demonstrated how a particular machine could meet a customer's needs.
- Modified sorting machines and test fixtures to run sample parts from customers.
- Rebuilt and maintained Windows-based test PCs.
- Troubleshot various Windows-based inspection machines, fixing broken software components.
- Trained service team members on how to use proprietary machines and software.

**Inspectron Tools** **Wixom, Michigan**
***Software Team Co-op*** ***April 2022 - June 2024***

Tested experimental software releases, discovered major software bugs, tested hardware samples, developed bug fixes, performed hardware audits, identified product defects, wrote test specifications and software documentation, conducted competitive assessments, assembled hardware test fixtures, and developed prototype circuits. Worked in an Agile-focused environment and attended daily stand-up meetings.

- Performed software audits on early pre-production software releases.
- Carried out hardware tests such as Chemical Resistance, Battery Life-Span, and Power Cycling tests.
- Audited production units and reported significant quality defects.
- Implemented code fixes for several user interface-related issues.
- Conducted tests of manufacturer samples, providing data-driven reports that impacted final production decisions.

## LEADERSHIP EXPERIENCE

**Kettering Gamer's Society** **Flint, Michigan**
***Club President*** ***August 2023 – Sep. 2024***

- Ran weekly meetings in which members would play a variety of different tabletop board games.
- Started as the Email Communications Chair (2021 - 2023) and worked my way up to Club President.
- Responsible for the annual completion of club documentation and registration-related activities.
- Managed the operation of two major campus-wide events: Tournament of Tournaments and Magic Draft.

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## PERSONAL PROJECTS

**Voice of The Valley** ***October 2024 - October 2024***

A narrative-focused Unity horror game developed for the Itch.io "ScreamJam 2024" Game Jam. The game was an eight-person project, with the story being focused on Native American Folklore. I served as one of the three programmers, in addition to my roles as project manager, narrative designer, and voice actor.

- As the project manager, I was responsible for organizing meetings and managing tasks through Trello.
- Established the core story concept, setting, and overall narrative direction of the project.
- Co-wrote the scripted dialogue and served as a voice actor.
- Worked closely with the gameplay designer, programmers, and 3D artists to ensure consistent design in all departments.
- Developed and implemented core gameplay mechanics and assisted in level creation.

**Portfolio Website** ***August 2024 - October 2024***

A personal website that I built using Next.js, React, Tailwind CSS, and hosted with GitHub Pages.

- Built using Next.js and React libraries. Optimized for both desktop and mobile browsing.
- The website layout includes an about section with tabs for skills, education, and experience, a project section with dynamic sorting tags, and a contact section.
- Utilized Framer-Motion React libraries to add responsive animations to each section.
- Implemented Formspree API to create a server-free email contact section.

**Liminality** ***November 2023 - Present***

A liminal space-inspired found footage horror game, built from the ground up in Unity's High Definition Render Pipeline and programmed in C#. Started as a personal project and eventually became my term-long project for CS-485: Advanced Game Development. In addition to development, I have written a 70-page technical report for the project.

- Designed a modular character controller asset in C#. Features can be easily enabled and disabled to suit the needs of future projects. Functionality includes running, jumping, crouching, a flashlight with a battery level indicator, camera zoom, fall damage, and a health system with damage effects.
- Created several types of AI enemies using Unity NavMesh Agents. One type of enemy features different animations and behavior states and is capable of routinely patrolling the map, chasing players, searching for players, and jumpscaring players.
- Implemented HDRP's Occlusion Culling features to save resources by only rendering on-screen geometry.
- Built a custom water shader for my "waterman" enemy using Shadergraph.
- Used ProBuilder to model and texture four levels from scratch over the course of an 11-week school term.

**Whack-a-bot VR** ***July 2023 - September 2023***

A virtual reality game built using Unity, ProBuilder, and the XR Toolkit. This was a two-person project that was created in 11 weeks for CS-420: Introduction to Virtual Reality. The game is a scaled-up version of the classic "whack-a-mole" arcade game. My role in the project was to create the environments and to set up the VR character controller and interactions. My partner was responsible for the programming of the robot mole enemies and game logic.

- Implemented the Unity XR Toolkit and inverse kinematics (IK) to create a dynamic character controller with a physics-enabled body that realistically mimicked the player's movements.
- Learned how to rig a character model for Inverse Kinematics and created a script that procedurally determined foot placement based on the position and rotation of the player's body.
- Used ProBuilder and some paid assets to create a detailed urban alleyway environment.
- Created dynamic physics objects that could not only be picked up, but also collide with the player's limbs and body.
- Designed and programmed a pointer-style main menu and pause menu.

## ADDITIONAL

**TECHNICAL SKILLS:** Agile, C, C++, C#, Java, Python, Linux, GIT, .NET, JS, CSS, React, MySQL, Blender, Unity, Unreal.
**CLASSES TAKEN:** Computing & Algorithms I-III, Discrete Math, Theory of Computation, Software Engineering, Operating Systems, Digital Systems I, Microcomputers I, Project Management, Intro to Game Design, Computer Graphics, Intro to VR.

**INTERESTS:** Skateboarding, 3D Printing, Hobbyist Electronics, Working on Cars, Playing Guitar, Video Games, and Film.