

# Craig W. Karinen Jr.

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## EDUCATION

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### Kettering University

*Bachelor's in Computer Science, Minor in Business, 3.18 GPA*

*Kettering Gamer's Society - President 2023-2024*

*Kettering Investment Club - President 2023-2024*

*Kettering Radio Club - Event Planning and Marketing 2023-2024*

Flint, Michigan

*July 2020 - Sep. 2024*

## PROFESSIONAL EXPERIENCE

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### Inspectron Tools

*Software Team Co-op*

Wixom, Michigan

*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.

#### Project 1: Inspectron WiTorch

- 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 over 400 production units and reported significant quality defects.
- Developed code to gradually “ramp” up and down between flashlight brightness levels in order to fix a rare voltage issue that would cause an intermittent hardware shutdown.

#### Project 2: Snap-On BK-7000

- Tested dozens of software releases and found numerous bugs of varying severity.
- Implemented code to fix several minor user interface related issues.
- Made several revisions to the product manual including rewrites and translations.
- Conducted tests of manufacturer samples for numerous accessories, providing data which impacted final production decisions.
- Played a crucial role in testing potential solutions to a catastrophic software issue for the BK-7000 Wireless Handle accessory.

### JMC Industries

*Controls Team Intern*

St. Joseph, Michigan

*October 2021 – Dec. 2021*

Assisted in the physical assembly of production line automation systems, wired high voltage junction boxes, fabricated custom parts and fixtures, delivered parts to and from other manufacturers, and helped develop a parts database system.

- Contributed to the software development of a parts and order database using Google Firebase, Javascript, and REACT.
- Shadowed the head of the build team and gained practical electrical and mechanical engineering skills.
- Built automated production systems and carried out the installation of custom machined parts and components.
- Aided in the operation of a finished assembly line fixture at a client facility and troubleshooted any issues that occurred.

## LEADERSHIP EXPERIENCE

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### Kettering Gamer's Society

*Club President*

Flint, Michigan

*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.
- Was responsible for the annual completion of club documentation and registration-related activities.
- Managed the setup and operation of two major campus-wide events: Tournament of Tournaments and Magic Draft.

## PERSONAL PROJECTS

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### 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.
- 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 Formsfree 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 which can be provided if requested.

- 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, flashlight with battery level, 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 animation 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

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**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.