Kevin Siegall (They/Them)

k@siegall.tech ◈ (631) 546-8383 ◈ k.siegall.tech ◈ github.com/ksiegall ◈ linkedin.com/in/kevin-siegall

EDUCATION

Worcester Polytechnic Institute **May 2025**

B. S. Computer Science; B. S. Robotics Engineering *Worcester, MA*

- Relevant Classes: ***Deep Learning For Perception, AI for Robotics, Swarm Intelligence, Software Engineering, Webware***
  Unified Robotics: Actuation, Sensors, Manipulation, Navigation, Mobile & Ubiquitous Computing

WORK EXPERIENCE

OpenSTEM: Experiential Robotics Platform (XRP) **Aug 2022 – Present**

Lead Software Developer, XRPLib *Worcester, MA*

- Spearheaded the development of an open source MicroPython library for small robots built for classrooms that has 20k current users
- Managed a team of 1-5 over 2.5 years and communicated with corporate partners and engineers from Sparkfun and DEKA

Smartapp.com – Robotics Branch **May 2024 – Aug 2024**

Autonomy Engineering Intern *Worcester, MA*

- Expanded on a Python and React-TS thrust test stand hosted on a Raspberry Pi, with customizable datalogging and test procedures
- Developed an intuitive and flexible motor library, which enables 'hot-swapping' of intelligent motor classes and objects
- Optimized proprietary robot locomotion techniques in Nvidia's IsaacSim using deep reinforcement learning (PyTorch and PPO)

Jacobs Technology – Jacobs Software Engineering Center **May 2022 – Aug 2022**

Software Engineering Intern *Hudson, NH*

- Worked in Agile to develop an in-house C# application used to add and sort SQL filters on flightpath databases (DAFIF)

PROJECTS

Terrawarden Drone Cleanup – Major Qualifying Project **Aug 2024 – Present**

- Designed and developed an aerial manipulator capable of detecting and collecting litter found on roadsides and highway medians
- Created a perception stack that uses an Intel RealSense to perform efficient (3ms) bounding box detection in open environments
- Evaluated YOLOv11 performance across multiple datasets, ultimately deciding to use a custom dataset generated using Blender

Robotic Navigation – SLAM and AMCL **Oct 2023 – Dec 2023**

- Developed a robot that could autonomously navigate and map an unknown space, then localize itself when relocated at a later time
- Implemented Simultaneous Localization and Mapping (SLAM), AMCL, A*, and Pure Pursuit on a Turtlebot3 with a planar LiDAR

Hand Machine: Gesture-Controlled Claw Machine **Jan 2025 - Jan 2025**

- Designed, assembled, and programmed a hand-gesture controlled claw machine using spare 3D printer parts for GoatHACKs 2025
- Matched claw machine motion to user hand movements using an RGB camera feed as input for Google's Hand Landmarker model

Video Game AIs **Jan 2024 – Mar 2025**

- Compared the relative abilities of an algorithmic model vs a reinforcement model at playing the classic NES game, Bomberman
- Implemented imitation learning on a Deep Q-Learning model in Pytorch, training it to play the Snake Game

Brigham and Women's Hospital Kiosk Application **Mar 2023 – May 2023**

- Led a team of 11 to create a hospital kiosk application, allowing for pathfinding, submitting work orders, and customizing signage
- Utilized Figma to create and iterate on front-end UI mockups before implementing in JavaFX
- Implemented Façade, Singleton, and other OOP design patterns for clean integration with the backend SQL Database

TECHNICAL SKILLS

Languages	Python, TypeScript, C#, Java, JavaScript, C++, C, MATLAB
Frameworks	React.js, Arduino, MicroPython, IsaacSim, Unity Game Engine, .NET, Simulink
Version Control	Git, Kanban, Agile, Github Projects, Azure DevOps, Jira
Other	Nvidia Omniverse, Blender, Autodesk Inventor, Figma, Raspberry Pi, Microsoft Office

EXTRACURRICULARS

WPI Cooking Club, President **Apr 2023 - Present**

WPI Robotics Prototyping Club, Founder, Treasurer **Aug 2024 - Present**

WPI Rho Beta Epsilon, Alpha Chapter **Feb 2025 - Present**

WPI Bowling Club, Treasurer **Aug 2022 – Feb 2023**

WPI VexU, Software Co-Lead **Aug 2022 – Feb 2023**

Scouting America, Troop 106, Eagle Scout **Mar 2014 – July 2021**