

KAI NAKAMURA

Covington, WA | kaihnakamura@gmail.com | kainakamura.com | github.com/KaiNakamura | linkedin.com/in/kaihnakamura

EDUCATION

Worcester Polytechnic Institute, B.S. Computer Science, B.S. Robotics Engineering | 4.0 GPA *Graduating May 2025*
Raisbeck Aviation High School, Valedictorian of the 2021 Class | 4.0 GPA *Graduated 2021*

SKILLS

Programming Languages: Java, C, C++, Python, JavaScript, TypeScript, HTML & CSS, MATLAB, SQL, R
Technical Skills: Git, Vim, React, Next.js, Docker, Linux, ROS, Sensor Fusion, Computer Vision, Autodesk Inventor
Relevant Coursework: Software Engineering, Operating Systems, Databases, Embedded Systems, Algorithms, Machine Organization, Object-Oriented Design, Intro to Electrical and Computer Engineering, Control Engineering

PROJECTS

Pick-and-Place Robotic Arm, MATLAB | kainakamura.com/project/rbe3001 *Sept. – Oct. 2023*

- Programmed a 4-DOF serial robotic manipulator in MATLAB to pick up and sort colored objects
- Implemented forward and inverse kinematics, trajectory generation, and a robust computer vision system

Multi-Robot Collaboration, C++ | kainakamura.com/project/rbe2002 *Summer 2022 & 2023*

- Programmed and assembled three robots to work together to escape from a randomized grid-based maze
- Established inter-robot communication over Wi-Fi using ESP32 microcontrollers with MQTT messaging

Solar Panel Replacer, C++, SolidWorks | kainakamura.com/project/rbe2001 *Jan. – March 2022*

- Designed and manufactured a robot to autonomously replace solar panels on a miniature house
- Utilized SolidWorks to create a four-bar linkage system, gripper mechanism, and compound gear box

Open Source Plugin for Charity, Java | kainakamura.com/project/speedrun-showdown *Dec. 2020 – 2022*

- Created Minecraft Speedrunning Plugin for an event with 32 world record-holding players and top content creators
- Assumed full responsibility for designing and developing the plugin to align with event staff's requirements
- Instrumental in facilitating over \$10,000 in donations for Plant with Purpose through the plugin's integration

Portfolio Website, Next.js, Tailwind CSS | kainakamura.com *May 2021 – Present*

- Regularly update and maintain my website to keep it current with my latest projects and accomplishments
- Utilized static site generation to minimize server load, improving loading speed and overall performance

PROFESSIONAL EXPERIENCE

Coding Instructor, iCode | Bellevue, WA *Summer 2022 & 2023*

- Taught students programming and engineering concepts in week-long classes
- Provided meaningful feedback on class materials and student dynamics in weekly status reports to parents
- Courses taught include: Vex Robotics, Lego Robotics, Drone Artificial Intelligence, Digital Art, Roblox Game Development, Construct 3 Advanced Game Design, Java Programming

Web Developer, Seattle Sounders Alliance Council | Remote *June – Sept. 2021*

- Redesigned UI and restructured organization for a WordPress site to improve readability and navigation

Web Developer, Seattle Society of Flight Test Engineers | Tukwila, WA *March – July 2018*

- Collaborated with a small group of students and met biweekly with Boeing Engineers to create a custom WordPress theme using HTML, CSS, JavaScript, and PHP

ACTIVITIES

Web-Tech Chair, Sigma Pi Fraternity | sigmapigammaiota.org *Feb. 2023 – Present*

- Responsible for maintaining and updating the website of the Gamma Iota chapter
- Organize and lead weekly committee meetings to discuss key initiatives and educate new members

Lead Programmer, FIRST Robotics Competition Team | Seattle, WA *Sept. 2017 – June 2021*

- Facilitated software development for Skunk Works Robotics, FRC Team 1983
- Responsible for mentoring new programmers and conducting regular code reviews