

# ERIC SEALS

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## Experience

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### GARMIN

Software Engineer

Olathe, KS  
Jul 2022 - Present

- Develop and implement new features in C++ for Garmin Dezl and other consumer GPS navigation products
  - Built a new weather map overlay feature, providing truck drivers with a real-time wind data display
  - Collaborated with an internal data sourcing team to implement functionality for fetching live wind data and parsed the information for accurate visualization
- Design and test performant application code for deployment on a Yocto embedded platform
- Take ownership of feature development, conducting code reviews, and ensuring weekly release builds
- Actively contributed to bi-weekly sprints and executed Jenkins CI build jobs for seamless project progress and efficient delivery
- Collaborate seamlessly with Project Managers, UX Designers, and cross-functional Software Engineers

### KU School of Engineering

Graduate Teaching Assistant

Lawrence, KS  
Aug 2020 - Dec 2021

- Explained technical topics related to embedded systems and real time applications

### GARMIN

Software Engineer Intern

Olathe, KS  
Nov 2020 - May 2021

- Developed software in C++ for Garmin Tread, an Outdoor Adventure Product
- Wrote production code to enhance overall performance, resolve bugs, and refine the graphical user interface (GUI) of Tread
- Successfully revamped legacy satellite positioning pages, enabling their smooth operation on thousands of devices

## Education

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### University of Kansas

M.S. Computer Science, College of Engineering

Lawrence, KS  
Aug 2020 - May 2022

- Cumulative GPA: 3.63/4.00
- Thesis: Memory Bandwidth Dynamic Regulation and Throttling

### University of Kansas

B.S. Computer Science, College of Engineering

Lawrence, KS  
Aug 2017 - May 2020

- Cumulative GPA: 3.72/4.00

## Projects

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- **Bandwatch:** System-wide memory bandwidth regulation system, [github.com/erjseals/bandwatch](https://github.com/erjseals/bandwatch)
  - Developed a real-time system that significantly reduced memory contention-induced task slowdown from 14.7x to 3.6x
  - Designed and implemented a dynamic regulation algorithm that leveraged real-time memory utilization statistics
  - Built as a Linux Kernel module in C targeting the NVIDIA Jetson Nano platform
- **AudioBud:** Audio Visualizer for Chrome, [github.com/AudioBud-Chrome-Extension](https://github.com/AudioBud-Chrome-Extension)
  - Developed a Chrome Extension for real-time time and frequency domain audio visualization
  - Implemented multiple digital audio filters (lowpass, highpass, bandstop) to modify audio output
  - Incorporated a customization feature menu that enables users to modify graphical visuals and adjust filter parameters
- **Sharp Edges:** Client/Server to study the performance gains with 5G Edge Computing, [github.com/sharp-edges-android](https://github.com/sharp-edges-android)
  - Established communication between the two entities via TCP/IP Sockets
  - Evaluated YOLOv3 Object Detection latencies by comparing computations on an Android app, a local server, and Google Cloud

## Skills

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**Languages:** C++, Python, Bash, Java

**Tools & Technologies:** Git, RTOS, Embedded, Boost Libraries, OpenGL, Vim