ERIC SEALS

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Experience

GARMIN   Olathe, KS
Software Engineer   *Jul 2022 - Present*

- Developed and implemented new features in C++ for Garmin Dezl and other consumer GPS navigation products
  - Built a new weather map overlay feature, providing real-time wind data display with OpenGL
  - Collaborated with an internal data sourcing team to design functionality for fetching live wind data
  - Subsequently parsed the incoming data and developed efficient visualization software
- 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   Lawrence, KS
Graduate Teaching Assistant   *Aug 2020 - Dec 2021*

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

GARMIN   Olathe, KS
Software Engineer Intern   *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

University of Kansas   Lawrence, KS
M.S. Computer Engineering, *College of Engineering*   *Aug 2020 - May 2022*

- Cumulative GPA: 3.76/4.00
- Thesis: Memory Bandwidth Dynamic Regulation and Throttling

University of Kansas   Lawrence, KS
B.S. Computer Engineering, *College of Engineering*   *Aug 2017 - May 2020*

- Cumulative GPA: 3.72/4.00

Projects

- **Bandwatch:** System-wide memory bandwidth regulation system, github.com/erjseals/bandwatch
  - Developed a real-time system that significantly reduced task slowdowns 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 targetting the NVIDIA's SoC "Jetson Nano" platform

- **AudioBud:** Audio Visualizer for Chrome, 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
  - 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

Languages: C++, Python, Java, JavaScript   **Tools & Technologies**: RTOS, Embedded, Boost Libraries, Linux, Android, Vim, Git