Ian Backus

Software Engineer

PERSONAL SUMMARY

I'm a highly driven engineer with a diverse background of experience and passion in the software/mechanical/electrical realms with an education in Applied CS from OSU. Some of my foremost software passions/interests lie in the areas of virtual/augmented reality (XR), writing software that directly interacts-with/runs-on/emulates unique hardware, machine learning, and physics applications of computer science. Beyond just software, I also possess strong mechanical/electrical aptitudes, and regularly apply them to personal projects such as maintaining/restoring vehicles, and diagnosing/fixing electronics. I regularly take on large projects with regard to these passions and find seeing them through immensely rewarding.

PROFESSIONAL EXPERIENCE

Software Engineering Intern
Beaverton, OR | 06/2024 - 12/2024

ESI, an MKS Brand ❯ Develops high-precision PCB-processing/MLCC-testing systems, enabling high tech industries in many markets.

- ❖ Worked directly within ESI's software teams, developing Flex/Geode PCB processing system software.
- ❖ Designed/Built a configurable Flex/Geode system emulator application to enable fellow developers to more easily test/debug their own work. During which I learned MVVM and NSIS from scratch.
- ❖ Emulator app work involved serialport/socket programming, command/response protocol study/reproduction, system state/behavior simulation, UI/UX design, and installer design.
- ❖ Debugged/Maintained existing Flex/Geode system controller apps.
- ❖ Software work primarily involved C#, .NET, WPF, Wireshark, and NSIS.

Software Engineering Intern
Portland, OR | 04/2023 - 09/2023

Liquid Wire ❯ An innovative tech company that focuses on creating flexible/compliant electronics with their proprietary metal-gel.

- ❖ Worked directly within Liquid Wire's in-house software team developing end-applications and proof of concepts for the company's in-development devices.
- ❖ Helped to jumpstart Liquid Wire's XR program, developing playable VR experiences with their wearable devices.
- ❖ Created machine-learning driven motion/gesture recognition apps with their wearable devices.
- ❖ Created device hardware monitoring/debugging tools, learning serialport/socket programming from scratch.
- ❖ Software work involved C++, C#, Python, Unity, and SteamVR.

Undergraduate Researcher

Extended Reality Lab, Oregon State University ❯ A highly productive OSU lab with a focus on VR/XR research, all under professor Raffaele De Amicis.

- ❖ Projects involved integration between VR concepts and other realms of CS, such as graph visualization, accessible/interactable streaming, and simulation.
- ❖ Helped author a published IEEE paper: "Towards a Holistic Virtual Environment for Graph Visualization and Analysis" (https://ieeexplore.ieee.org/document/10128896).

PERSONAL INFO

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- Salem, OR 97306

EDUCATION

Bachelor of Science, Applied Computer Science
Oregon State University
Corvallis, OR | 09/2020 - 06/2025

- Dean's List
- Finley Academic Excellence Scholarship Recipient
- 3.93 GPA
- Capstone Project; Immersive Animal Anatomy: https://github.com/Extended-reality-Lab/Immersive-Animal-Anatomy

SKILLS

- Experience in high/low level languages, frameworks, engines, tools, and patterns including Git, C, C++, C#, Python, Pascal, Java, R, Javascript, HTML, CSS, SQL, CUDA, NSIS, .NET, WPF, Docker, AWS, Unity, MVVM, OOP, etc.

- Experience programming for/on Windows, Linux, and Android OS'

- Strong mechanical aptitude, Autodesk experience

- Extensive XR app development experience

- Quick and eager learner, happy to pick up brand new things from scratch

- Efficient in both individual and team settings

- Happy to help/teach others