

## Ryder Swanson

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### Education

#### WASHINGTON STATE UNIVERSITY

Pullman, WA

**Bachelor of Science in Computer Science**, GPA: 3.77

May 2025

**Honors:** Magna Cum Laude, President's Honor Roll (all semesters)

**Relevant Coursework:** Design & Analysis of Algorithms. Advanced Data Structures (C/C++). Graph Theory. Systems Programming (C/C++). Programming Language Design. Web Development.

### Technical Skills

**Programming:** C++, C, Python, Java, Javascript, React, Robot Framework, GLSL.

**Technologies:** Yocto Project, Wayland, QEMU, Robot Framework, Git, Kernel Development, OpenGL, Docker.

**Operating Systems:** Linux (Yocto, RHEL, Debian, SUSE), Windows (Desktop & Kernel).

### Experience

#### SCHWEITZER ENGINEERING LABORATORIES

Pullman, WA

**Associate Software Engineer**

May 2025 - Present

- Developed a framework using Yocto and Wayland to rapidly create custom, GUI-based embedded Linux utilities for enterprise hardware, deployable via USB with touch, mouse, and keyboard support
- Engineered a library to automatically generate full React front-end web applications from Python, enabling a rapid transition from CLI to GUI
- Successfully ported a Yocto-based industrial control OS to new custom hardware, migrating the system from x86-64/PPC to an aarch64 processor architecture
- Contributed to Windows kernel driver development for specialized industrial computer peripherals

**Software Engineering Intern**

June 2023 – May 2025

- Designed and implemented comprehensive testing frameworks to verify functionality for core system drivers and firmware, including network, IRIG time, serial, and Contact IO
- Maintain a suite of Linux kernel drivers mainlined by Canonical written in C
- Enhanced a key utility to add support for new hardware, enabling firmware updates for an FPGA
- Coordinated with a team of 6 Senior Engineers to develop a utility that automatically installs a headless Windows virtual machine then executes functional tests using QEMU

#### YESTERDAY'S TRACTORS

Port Townsend, WA

**System Administrator**

November 2020 – October 2021

- Managed server environments and designed automated data entry solutions

#### GREENPOD DEVELOPMENT

Port Townsend, WA

**Architectural Rendering Specialist**

September 2019 – November 2020

- Created photorealistic 3D environments for client projects using custom shaders and modern rendering tech

### Leadership & Activities

#### PROJECTS

**NewEngine**

2023– 2024

- A game engine with a focus on a well featured GUI editor. New Engine supports screen picking, object property manipulation, physics engine, full model loading using Open-Asset-Import-Library, and shader hot-loading.

**Jack Engine**

2019-2021

- A 3D game engine development focused on infinite, open world, chunk-based, procedural generation using C++/Java and OpenGL.