

Ryder Swanson

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Education

WASHINGTON STATE UNIVERSITY

Pullman, WA

Bachelor of Science in Computer Science, GPA: 3.78

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

Technologies: Yocto Project, Wayland, QEMU, Git, Kernel Development, OpenGL, Scapy, WPE WebKit, Weston.

Experience

SCHWEITZER ENGINEERING LABORATORIES

Pullman, WA

Associate Software Engineer

May 2025 - Present

- Ported a Yocto-based industrial control OS to a new CPU architecture, spanning an initial prototype on a development board through to a near-complete implementation handed off for final production release
- Collaborated with a Principal Engineer and Senior Engineer on prototype hardware bring-up, independently delivering initial Linux boot and FPGA bring-up on the board
- Led development of a large-scale Robot Framework automated functional test suite for a new product, covering FPGA validation, a custom Ethernet protocol, and Linux driver functionality; also authored a C++/CLR test library used in the manufacturing line for the same product
- Developed a React frontend and Python-to-React bridge for a customer-facing utility, replacing a legacy CLI interface, using Weston and WPE WebKit

Software Engineering Intern

June 2023 – May 2025

- Designed and implemented testing frameworks for core system drivers and firmware, including network, IRIG time, serial, and Contact IO
- Maintained a suite of Linux kernel drivers mainlined by Canonical; coordinated with a team of 6 Senior Engineers to develop a utility that automatically installs and tests a headless Windows virtual machine 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.