

Mackay Grange

Software Engineer

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EXPERIENCE

Implementation Consultant

Conservice // Full Time

Aug 2021 - Aug 2022 ~ 1 year ~ Logan, UT

- Served as primary post-sales contact for 15–30 property management clients monthly.
- Managed full implementation lifecycle, ensuring compliance with varying state regulations.
- Coordinated with internal teams to resolve issues and transition clients to ongoing support.
- Optimized and created tools in excel and google sheets to streamline work flows and automate previously manual processes.

Youth Mentor

Logan River Academy // Part Time

Aug 2019 - Aug 2020 ~ 1 year ~ Logan, UT

- Mentored youth and young adults with behavioral, mental-health, and minor substance-abuse challenges.
- Supported academic and therapeutic goals through coordination with teachers and clinicians.
- Ensured safety, structure, and progress toward program milestones.

Volunteer Service — Spanish Language & Community Outreach Mentor

Church of Jesus Christ of Latter-Day Saints

Aug 2017 – Aug 2019 - 2 years - San Diego, CA

- Completed a full-time volunteer service assignment involving community outreach and teaching
- Achieved professional fluency in Spanish through daily immersion and instruction
- Developed strong cross-cultural communication skills and the ability to explain complex ideas clearly
- Demonstrated self-discipline, adaptability, and long-term commitment in a structured environment

NOTABLE PROJECTS

Autonomous Airplane Tug Project

UVU Software Engineering Capstone // Provo, UT Airport // C, C++

2024 - 2025 ~ Orem, UT

- Developed embedded control and automation software for an electric autonomous airplane tug.
- Collaborated with mechanical/electrical engineering teams to integrate microcontroller-based systems.
- Implemented hardware-software communication and motion-control logic.

Custom Assembler and Emulator Project

Advanced Computer Architecture Project C++, CMake, Python

2024 - 2025 ~ Orem, UT

- Designed a custom instruction set and built an assembler to emit binary executables.
- Developed an emulator supporting function calls, memory operations, and cached execution.
- Demonstrated caching performance benefits through controlled experiments.

Additional Projects

- 2D Particle Physics Simulation — SDL3
- Quaternion based 3D Rendering Tool — SDL2
- RSA and DSA Encryption and Decryption tools

EDUCATION

Bachelor of Science in Software Engineering

Utah Valley University

2022 - 2025 ~ Orem, Utah

Associate of Science in General Studies

Utah State University

2019 - 2021 : Logan, Utah

Summary

Adaptable software engineer who rapidly learns new technologies and applies them to real-world systems. Experienced in embedded development, automation, and low-level programming, with a strong focus on building reliable and efficient solutions. Energized by challenging problems, continuous learning, and cross-disciplinary teamwork.

Industry Knowledge

Linux (Ubuntu, Arch)
Computer Architecture
Cybersecurity
Embedded Systems
Microcontrollers
Software Design Patterns
UML Diagramming
User Interface
UI/UX & Wireframing
Rapid Prototyping
Networking & Server Deployment
Virtualization and Emulation

Tools & Technologies

Make, CMake, Git/Github, Bash,
Powershell, Docker, Surfshark,
Blender, Gimp, Figma, Lucid, LaTex,
Excel, Google Sheets

Programming Languages

C, C++, C#, Lua, Python,
HTML, CSS, JavaScript

Frameworks

ROS2, ESP-IDF, Raspberry Pi,
Arduino, SDL2/SDL3

Spoken Languages

English (native)
Spanish (fluent)