

Andrew Dron

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Salt Lake City, UT

Software engineer specializing in systems development and security. Experienced at building/maintaining systems and applying modern software security testing methodologies. Seeking full-time opportunities in the computer security space to apply problem-solving and software engineering expertise.

SKILLS:

Languages: C++, Python, Javascript, Typescript, C#/Net Core, MySQL

Frameworks: React, Node.js

Tools / Methods: Git/GitLab, AFL++, Agile/Scrum, Test-Driven Development

PROFESSIONAL EXPERIENCE:

University of Utah - Salt Lake City UT - Research Assistant

June 2025 - Present

- Member of IOTrust security research lab working under Professor Luis Garcia. (<https://iitrustlab.com>)
- Integrated CompactLogix PLC (programmable logic controller) with MiniSWaT water treatment testbed, enabling real-world ICS/SCADA experimentation on the miniaturized ICS.
- Extended OpenPLC with AFL++ fuzzing support to automate testing of IEC 61131-3 structured text programs, improving scalability of PLC vulnerability discovery
- Currently contributing to Cross-PLC research focused on cross-vendor grey-box fuzzing for industrial control systems.

Sorenson Communications - Taylorsville UT - Software Engineer 1

August 2021 - June 2022

- Desktop developer for video relay service team. Responsible for regular code contributions to project web endpoints using agile process.
- Learned how to maintain legacy codebases, improve code quality, fix reported issues and add features on client request.
- Responsible for maintenance of video relay service app code base written in React through Netlify.
- Assisted with creation of new videophone project (Flutter, JavaScript, Firebase)

Becton Dickinson - Salt Lake City UT - Software Engineering Intern

October 2018 - August 2021

- Member of the software team in the Medical Imaging Engineering department. Assisted in the development of new features for, and maintenance of, code bases for ultrasound and needle tracking devices (C#, C++, WPF)
 - Responsible for employing test driven methodologies to maintain quality assurance for imaging machines (Unit Testing, Ad-Hoc, Written Protocols).
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RELEVANT COURSEWORK AND PROJECTS:

Privacy Preserving Grayscale (Python)

- Developed a CPA secure client/server application that allows for server side grayscaling of images encrypted using the CKKS homomorphic encryption algorithm
- Client converts RGB image channel data into encrypted polynomial representations.
- Server performs grayscaling using averaging method on encrypted channel chunks

Massively Parallel Hardware Simulator (C++, C)

- Integrated a DRAM simulation module into a parallel hardware simulation platform
 - Simulator used as a ray-tracing hardware analysis tool by the Utah Hardware Ray Tracing Group
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EDUCATION:

University of Utah, Salt Lake City, UT

- *M.S. Computer Science (3.9) - 2026*
- *B.S. Computer Science (3.6) - 2020*