Joshua Elieson

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Skills

Languages: JavaScript, TypeScript, Java, Python, C/C++, C#, SQL, MATLAB

Technologies & Tools: AWS, GCP, Docker, Kubernetes, Terraform, Linux, Bash, Node.js, React, RESTful APIs, PostgreSQL, Git, GitHub, Jenkins, Jira, Agile, VSCode, Visual Studio

Clearance: Active U.S. Government Security Clearance (Secret)

Work Experience

Northrop Grumman Aug 2024 – Aug 2025

Software Engineering Co-op (Cloud Services and Integration) *Roy, UT*

- Developed 10+ automated validation scripts in Jython and Groovy to scan thousands of UML system models for security and deployment errors. Reduced manual review time by 60% and prevented critical integration failures before release.
- Refactored and optimized a complex CI/CD pipeline, cutting deployment time from 8+ hours to <10 min. Supported faster delivery cycles for 200+ internal projects.
- Authored internal documentation and onboarding guides adopted across multiple teams. Reduced new developer ramp-up time by 20% and lowered environment-related support requests.
- Jython, Groovy, C++, Cameo Systems Modeler, Git, Confluence, Agile

Northrop Grumman May 2024 – Aug 2024

Software Engineering Intern (Physical Security) *Roy, UT*

- Implemented back-end linear algebra algorithms in C to convert live incoming raw LIDAR data packets into structured point cloud (PCD) files, improving processing speed by 3× and delivering a smoother visualization for security and other developers.
- Developed front-end features in React to render interactive 3D point clouds, enabling non-technical users from 5+ internal teams to quickly analyze sensor data directly in a web application.
- TypeScript, React, JavaScript, C, Node.js, REST APIs, Git, Linux, Jira, Agile

University of Utah Aug 2023 – May 2024

Teaching Assistant (Physics for Scientists and Engineers) *Salt Lake City, UT*

- Led bi-weekly lab sessions and office hours for over 100 students, providing individualized support and fostering deeper engagement with core physics concepts throughout the semester.
- Designed and delivered over 20 interactive workshops and demonstrations that simplified complex topics like mechanics and electromagnetism, resulting in a 10% increase in final course grades among students.

Education

University of Utah Aug 2022 – May 2026

B.S. in Computer Engineering *(Expected Graduation: May 2026)* ***Cumulative GPA: 3.84/4.0***

Relevant Coursework: Object-Oriented Programming, Algorithms and Data Structures, Discrete Structures, Software Practice, Programming Languages, Computer Organization, Computer Systems, Computer Security, Embedded Systems Design, Digital System Design

Relevant Projects

- **Spreadsheet Application — Spring 2025:** Built a C-based spreadsheet application with dynamic cell dependencies, a custom formula parser and evaluator supporting arithmetic expressions and cell references, and stack-based undo/redo functionality. Designed a responsive interface for real-time updates and intuitive data manipulation.
  C#, .NET, WinForms, GitHub
- **Multiplayer Agar.io Clone — Fall 2024:** Built a real-time multiplayer game with a client-server architecture using TCP sockets and HTTP endpoints to manage bidirectional communication. Implemented asynchronous threading and database integration to support concurrent players, handle collisions, and broadcast updates with minimal latency.
  C#, .NET, Sockets, Networking, HTTP, SQL
- **Mechanical Detection of Magnetic Resonance — Undergraduate Research (2023 – 2025):** Designed and implemented software in Python and MATLAB to process, log, and visualize voltage signals from a custom magnetic-sensing device, achieving a 10× improvement in detection sensitivity from the initial design and demonstrating potential for next-generation magnetic sensors and spin-detection technologies.
  Python, MATLAB, Signal Processing