

Joseph Ritchie

(Ability to Obtain a DOD Clearance)

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EDUCATION

Brigham Young University, Fulton School of Engineering

Provo, UT

Bachelor of Science in Mechanical Engineering, Minor in Business Strategy

August 2026

- College GPA 3.86/4.00 ACT 35 High School Valedictorian, rank 1/750 students

Proficient:

Microsoft Office Suite
MATLAB
Onshape
Solidworks

Intermediate:

Python
OpenVSP / Xflr5
TeamCenter
NX

Beginner:

C++, C
Costpoint
ROS
Jira

PROFESSIONAL EXPERIENCE

Northrop Grumman, Defense Systems

Roy, UT

Technical Intern, Systems Engineering

June 2024 – August 2024

- Earned Northrop Grumman EVM Control Account Manager Certification; passed CAM certification exam
- Assisted in modeling facilities using NX; ensured current designs were consistent with customer models and requirements
- Studied systems and aerospace engineering methodologies; completed all related company internal introductory trainings
- Interviewed 5 executives across NG divisions; investigated effective leadership and communication skills/strategies
- Completed all required Agile trainings; received instruction on Scrum and Kanban methodologies at Northrop Grumman

Northrop Grumman, Space Systems

Chandler, AZ

Technical Intern, Mission Assurance

June 2023 – August 2023

- Analyzed entire procurement path of critically attached hardware on space vehicle by utilizing Costpoint ERP software
- Authored a company accepted analysis for government-initiated audit; presented results to program director and managers
- Verified program compliance to Defense Federal Acquisition Regulation Supplement (DFARS)
- Engaged in ESD and FOD assessments of manufacturing floor; organized Non-Standard Parts Approval Requests using Jira

USA Pavilion, World Expo 2020 Dubai

Dubai, UAE

Youth Ambassador

January 2022 – April 2022

- Selected to represent the United States at Expo 2020 Dubai; interacted with thousands of visitors from over 190 countries
- Staffed the USA Pavilion; acted as translator and tour guide; shared American values and history as cultural ambassador
- Assisted US Department of State diplomats in public diplomacy outreach to foreign government delegations and pavilions

Ohana Energy (Solar Energy Provider)

Gilbert, AZ/Houston, TX

Sales Rep/Energy Consultant

May 2021 – September 2022

- Specialized in direct sales lead generation; negotiated contracts; acted as liaison between homeowners and energy providers

ENGINEERING PROJECTS

BYU "MAGICC" (Multi Agent Intelligent Coordination and Control Lab)

Lab Assistant

October 2023 – Current

- Created aircraft models and performed aerodynamic analyses using OpenVSP and Xflr5 to improve flight simulations
- Achieved comparable autopilot controller performance in simulation and real flight; published a user guide on lab website
- Assisted in writing and editing two technical research papers for publication; submitted to ICRA in September 2025
- Programmed Robot Operating Software (ROS) nodes in C++ and Python to accelerate in-flight autopilot trimming
- Assisted with flight tests; moderated computer base station; maintained physical aircraft and wired flight hardware

BYU Aeronautics Club

Team Captain

September 2022 – April 2025

- Led 10 undergraduate students in designing, manufacturing, and testing an aircraft for international SAE flight competition
- Coordinated efforts with a senior capstone team and professors; organized design reviews and managed technical reports
- Engaged in fiberglass, carbon fiber, and Kevlar composites manufacturing; learned how to weld aluminum for fuselage

BYU Rocketry Club

Team Member

September 2021 – December 2021

- Studied rocket flight principles; designed a model rocket using OpenRocket software; constructed entire rocket by hand