

Ethan Schalnat

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OBJECTIVE

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EDUCATION

Northern Arizona University

Flagstaff, AZ

Bachelor of Science, Mechanical Engineering

Jan 2023 – Present

Relevant Courses: Machine Design, Thermodynamics II, Solid Mechanics, Material Science, Statics, Dynamics, SolidWorks, Digital Circuit Design

GPA: 3.71/4.00

Red Mountain High School

Mesa, AZ

H.S. Diploma

May 2022

Relevant Studies:

GPA: 4.23/4.00

- PTLW accredited four-year engineering STEM pathway

- Three years in robotics, designing and building robots suited to yearly VEX and FIRST robotics competitions

PROJECT EXPERIENCE

FLAMES Design Project: Team Leader of 5

Aug 2025 – Dec 2025

- Worked with client Dr. Eilaghi

- Designed a prototype to automatically detect and suppress engine fires

- Performed extensive cost analysis including TVM and TBL

- Gained experience with CAD in Solidworks, XR modeling in eDrawings and Blender, and presenting to a board of engineers

Digital Circuit Design Lab: Unassisted (conventionally team of 2)

Aug 2023 – Dec 2023

- Worked with OrCAD, MSO28, and Quartus to design and analyze circuits

- Built finite-state machines, communication systems, and other circuits using breadboards and 74 series integrated circuits

- Applied a military-based 'fast and accurate' mindset in an effort to complete each lab to standard independently

Fire Truck Crash Prevention (ASU EPICS): Team Leader of 3

Aug 2021 – May 2022

- Worked with stakeholder Rural Metro Fire, Inc.

- Developed a prototype to increase safety and ergonomics for drivers

- Gained experience with modeling in Autodesk Inventor, circuit design in OrCAD, and C/C++ for Arduino prototyping

- Practically applied the PLTW engineering design process

- Presented to a board of judges at Arizona State Universities EPICS expo

WORK EXPERIENCE

224th Military Police Company

Glendale, AZ

Enlisted – Corporal (CPL)

Nov 2021 – Present

- Lead a team of 4 soldiers, managing accountability and readiness

- Conduct strict inventory management and inspections

- Deployed to Joint Readiness Training Center as a Vehicle Gunner

- Qualified as an expert marksman with the M4, M17, M249

SKILLS

Software:

CAD: Autodesk Inventor, Fusion, SolidWorks

Math and Coding: MATLAB, C++, Python 3, Systems Toolkit (STK)

Electrical Systems: OrCAD, MSO28, Quartus II

Languages:

English (Fluent), Spanish (Basic)

Clubs:

ASME NAU Chapter, Alternative Energy Association, Invent for the Planet Club

LEADERSHIP

Team Lead, FLAMES, Northern Arizona University

Aug 2025 – Dec 2025

Squad Leader, 2nd PLT 224th MP Co.

Nov 2023 – Present

Capstone Team Leader, Red Mountain High School

Aug 2021 – May 2022

Competition Lead, VEX Robotics

Aug 2020 – May 2022

