

Elias Nicolas

elias.f.nicolas@gmail.com | [linkedin.com/in/elias](https://www.linkedin.com/in/elias) | [Work Portfolio](#)

EDUCATION

University of Redlands - 3-2 Engineering Program

Redlands, CA

B.S. Mechanical Engineering, B.A. Physics, B.A. Data Science, Minor in Mathematics

August 2024 – May 2027

- **GPA: 3.78/4.00**

EXPERIENCE

Mechanical Engineering Intern

Jun. 2026 – Aug. 2026

Howmet Aerospace

Fontana, CA

- Designed a hydraulic tool for press tooling changed to reduce the floor workers needed from 3 to 2
- Drafted and procured a replacement part for the plant's 60 in. Ring Roller that had no documentation
- Reverse-engineered 4 undocumented business assets in Inventor to be used by facilities for future repairs
- Laid out a building relocation for the maintenance team in AutoCAD to maximize a 7000 sq. ft storage space

Makerspace Assistant

Jan. 2026 – Present

University of Redlands Makerspace

Redlands, CA

- Utilizes 3D slicing software to cut down print times by 50% on average, leading to both filament and time saved
- Maintains lab equipment and troubleshoots hardware for 3D Printers, Laser Cutters, and CNC Mills
- Instructs classes to 10+ students, teaching them how to use Virtual Reality equipment for classroom simulations

Mechanical Engineer

Jan. 2026 – May 2026

NASA L'Space Mission Concept Academy

Remote

- Worked in an interdisciplinary team to deliver a chassis designed in Siemens NX for our lunar mission concept
- Ensured the deliverable was less than \$150M allocated by tracking the total materials cost in Microsoft Excel

Lead Engineer

Sep. 2025 – Present

Redlands Robotics and Drone Club

Redlands, CA

- Designs 3 drone frame iterations in Onshape that are tested to ensure press fit and fastener tolerances are correct
- Collaborates with 8 team members to develop projects with the University of Redlands GIS Department
- Directs the assembly process of an FPV drone to integrate hardware with AI and object detection capabilities

Club President

Aug. 2024 – Present

Students for Exploration and Development of Space Redlands Chapter

Redlands, CA

- Plans 5+ on-campus events including stargazing nights and engineering expos to cultivate a sense of community
- Spearheads aerospace engineering projects producing validated CAD designs for rockets, rovers, and drones

PROJECTS

Voice Controlled Robotic Arm | Solidworks, Onshape, SimScale, C++, Python, Google Gemini

- Implemented a voice control method through the use of Google Gemini that performs precise real-time movements
- Configured and manufactured custom mechanical components in Solidworks and Onshape, ensuring 4 DOF
- Conducted FEA using SimScale to pinpoint concentrated areas of stress, leading to improved redesigns

Axial Flux Motor | Solidworks, Onshape, SimScale

- Engineered a custom axial flux motor featuring an 8 pole, 6 slot topology ideal for high speed rotations
- Implemented a custom motor architecture utilizing neodymium magnets to rely solely on an electrical source
- Designed a modular stator enclosure thus enabling rapid maintenance for critical motor components

Japan Natural Disaster Risk Analysis | Python, Jupyter Notebook, Microsoft Excel, Claude Code

- Demonstrated a 72% rank correlation between its comprehensive risk score and real world disaster impact
- Developed an interactive dashboard with Streamlit for visualization and presented insights via choropleth maps

TECHNICAL SKILLS

Office Software: Office 365 Suite, Microsoft Excel, Microsoft PowerPoint, Microsoft Word, Google Sheets

CAD: Solidworks, Inventor, AutoCAD, Onshape, Siemens NX

FEA: SimScale

Programming Languages: Python, C++, SQL, Java

Developer Tools & Platforms: Git, Github, VS Code, Cursor, Jupyter Notebook, Claude Code, Google Gemini

Interests: Gym, Basketball, Volleyball, Cooking, Hiking, Philosophy