

Noah Shoup

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SUMMARY

Mechanical Engineering Junior specializing in rapid prototyping and development seeking summer 2026 internship.

EDUCATION

ARIZONA STATE UNIVERSITY
BSE MECHANICAL ENGINEERING
2024 - 2027 | Tempe, AZ
GPA: 3.89

SKILLS

CAD SOFTWARE
SOLIDWORKS · Creo · IronCAD

FABRICATION & ANALYSIS
Design for Manufacturing (DFM) ·
FDM + Resin Printing · 3D Scanning

CERTIFICATES

SOLIDWORKS ASSOCIATE
Jan 2023 - Present
SOLIDWORKS Part, Assembly, and
Drawings

AWARDS

**REAL WORLD DESIGN
CHALLENGE**
Mar 2022 & Mar 2023
International Innovation Award
Second Place Award

FIRST ROBOTICS
Apr 2023 & Apr 2024
Impact Award and Creativity Award

PROJECT EXPERIENCE

ELECTRIC GO-KART | PERSONAL ENGINEERING PROJECT
2025 -- Present

- Designed and built a fully electric go-kart including chassis, drivetrain layout, and component mounting.
- Modeled full assemblies in SOLIDWORKS using in-context modeling for fit, motion, and packaging validation.
- Designed and fabricated custom components using FDM 3D printing for rapid iteration.
- Performed hands-on fabrication including flux-core MIG welding, grinding, and metal finishing.

SUN DEVIL SEMICONDUCTOR CLUB | Co-FOUNDER
Aug 2024 -- Present

- Co-founded a student organization focused on semiconductor device fabrication using low-cost, DIY methods.
- Designed and built a custom spin coater for uniform photoresist application on silicon substrates.
- Designed and 3D-printed a custom chuck to resolve adhesion issues in vacuum-based systems.
- Developed a custom lithography system achieving approximately 30-micron feature resolution using SLA printing and microscope optics.

EXPERIENCE

AXON | NEW VENTURES | DEVICES
June 2023 - Present | Scottsdale, AZ

- Worked in rapid prototyping under the New Ventures team within the High School Internship program developing new product concepts.
- Used Bluetooth Low Energy signaling to prototype a new product
- Authored and presented a report for a new product to Axon's Chief Product and Technology Officer.
- Rehired under Axon Devices team to develop and test prototype robotic systems.
- Measured impulse forces with DAQ software to characterize high-impulse events. Results used to detect possible failure modes.
- Built robotic test fixtures for validating wear on belt drive methods.
- Designed fixtures to test backlash reduction methods in geared/belted mechanisms; validated methods via accelerated life testing.
- Designed custom firing fixture for large body projectiles in Creo
- Collaborated with other engineers in design reviews to perform tolerance analysis and evaluate fixture efficacy
- Created engineering drawings of fixture for machine shop submission
- Received feedback on fixture from technicians and created an improved latch mechanism for fixture breach

ENGINEERING SUPPORT | PROJECT ENGINEERING AND DEVELOPMENT
May 2022 - 2023 | Mesa, AZ

- Worked as contract engineer for mining equipment and tooling with emphasis on 3D scanning and CAD development.
- Utilized modeling and 3D scanning techniques to reverse engineer parts.
- Built CAD from archaic drawings for custom gyratory crushers which enabled safer, faster service tooling.
- Designed a high-pressure impeller for abrasive fluid transport out of mine shafts.
- Generated point clouds with stationary LiDAR to improve serviceability of custom crushers.
- Used arm LiDAR scanner to compare scans to CAD then produced heat maps of high and low points for dimensional accuracy.
- Wrote a management user guide for arm-based LiDAR workflows around existing geometries.