

Maxwell Haynes

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3D Printing, Machining, and Rocket Designer enthusiast seeking challenging opportunities.

Education

2021-2023 College student at Colorado Mesa University; Associates in machining, Minor in Physics

- Gathering information on club startups for High Power Rocketry Club here at CMU to educate and spark others interest in rocketry.
- Started basic training on ZEISS Coordinate Measuring Machine.

2020 Graduate: Niwot High School

- 10 year Tripoli Rocketry Association; Member 12700
- Received an offer from an aerospace optics company to work full time as a CNC operator/programmer
- Built and launched rockets at BALLS 24, 25 & 27.
- Joined the University of Colorado at Boulder, Rocket Club (COBRA).
- Presented safety, and build tips to the team through PowerPoint presentation.

Job Experience

6/2015 to 10/2020: Centerline Power

- Manufactured machine parts such as fuel injection cylinders with manual W&S lathe, mill & honing machines.
- Assisted machinists with quality control inspections, assembly, and packaging.

9/2018-9/2019: Get Air Trampoline Park

- Shift leader responsible for monitoring guests and individual party groups. Booked parties collected and recorded payments. Assisted with opening, closing, and general park upkeep.
- Trained new lifeguards, party hosts, front desk hosts on required safety procedures and interpersonal skills.

5/2020-7/2021: Excelitas technology

- Programing, setups, and running multiple variations of CNC machines that are used to generate, edge, polish and shape optical lenses installed in government, military, aerospace, and commercial applications.
- Refined my metrology skills and knowledge through precise part tolerances ranging from $\pm .020\text{MM}$ (.0007") to $\pm .002\text{MM}$ (.00007") measured with ZYGO optical interferometer.

Involvement

2015 to Present: High Power Rocketry

- Beginning at age 13, designed, built, and successfully flew a dual deploy rocket 10+ times to altitudes above over 8,000 feet (AGL).
- Currently designing, building, a new fin can for multiple applications. Including, reusability, versatility with fin design, low-budget research-friendly, durable, and universal. All parts being machined out of 6061 T6 aluminum to tolerances ranging from +/- .002" - +/- .005"
- Designed and built rockets reaching speeds above Mach 1 and over 15,000 feet.
- Multiple successful flights with rockets recovered intact using an advanced GPS system.

2015 to Present: 3D Printing/Machining

- Initiated a self-study program on 3D printers and upcoming printing technologies. Learned basic CAD/CAM programming and skills through Fusion 360 needed to design high-stress parts.
- With personal earnings, I bought a 3D printer (ROBO 3D R1+) in 2015.
- Have advanced my ability to model objects in Fusion 360 and tweek printer setting to allow for high detail and reliable prints relating to current machining projects.
- Self-educated Fusion 360 CAM software to quickly, accurately, and efficiently produce small batches of aerospace related parts designed for high-stress flight.

References

Matt Balmev

Get Air Trampoline Park Manager
(970) 623-115