

Blaine Allen

Experienced with rapid problem-solving and hands-on building of mechanical and electrical systems from first principles.

ACCOMPLISHMENTS

MIG + TIG Welder - Graduated from Super Welders Academy. 2024

Built and led Community Volunteer Park and Beach Cleanup Projects - Removed over 12,000 gallons of debris from public areas. 2015, 2020, 2021, 2022, 2023, 2024

Homeless Shelter Supervisor - Poised to resolve high-stakes crises when solo-operating 60-person shelter. Used algorithmic thinking to increase operational efficiency by ~70%. 2020 to 2022

Published 4 engineering papers in electrical time series analysis and fluid systems. 2021, 2022

Awarded First Place in University Engineering Competition - Developed electrical signal processing hardware and pattern recognition. 2018

Ironman Triathlete (140.6, 70.3) 2016, 2018

Awarded Air Force Achievement Medal for "honorable actions taken averting \$633.6 million in catastrophic damages" to the fleet of aircraft. 2012

EXTRA ENGINEERED & BUILT PROJECTS

Structural restoration of telescope observatory, mechatronic control with BCI, electroencephalograph EEG hardware+software, 8051 microprocessor computer build, H+O₂ electrolysis hardware, CubeSat satellite, CubeSat titanium chassis by robotic welder, automated hydroponic system, pneumatic can crusher, human-scale hovercraft, Subaru boxer engine rebuild, etc

EXPERIENCE

Electrical/Mechanical Engineer & Equipment Technician

South Texas Astronomical Society (NASA Partner) - Brownsville, TX - 2023 to Present

Hands-on build of mechanical and electrical engineering of a hybrid rocket engine and local telescope observatory and am responsible for leading various NASA programs.

Electrical Engineer - Department of Defense-funded

Missouri University of Science & Technology - Rolla, Missouri - 2018 to 2023

Applied Computational Intelligence Lab - Electrical & Computer Engineering
Mechatronics & Control Systems Lab - Mechanical & Aerospace Engineering

Designed and built the first quantitative assessments of damage to the head with electrical time series analysis and fluid composition modeling.

Crew Chief Mechanic - Stratotanker Refueling Aircraft (KC-135)

U.S. Air Force: Staff Sergeant - Secret Security Clearance

McConnell Air Force Base, Wichita, KS - 2010 to 2018

Performed and supervised the inspection and hands-on maintenance of all aircraft systems. Responsible for signing off on final system checkouts for crewed flights.

- Accelerated operational checks, supply chain, & logistics for vehicle subsystems: 3-phase high-voltage electrical, structural, mechanical, high-pressure 3000 psi hydraulics/pneumatics, avionics, satellite communications, and F-108 jet engines.
- Thrived in a fast-paced environment with aggressive timelines on over 700 missions and combat zone deployment: 100% mission success and QA record.

EDUCATION

Masters of Science - Electrical Engineering & Computer Science

Missouri University of Science & Technology - Rolla, Missouri - GPA: 3.5 - 2023

Coursework: Mechanical vibrations, statistical data analysis, additive metal manufacturing design and optimization, control systems, advanced artificial intelligence, data mining, etc.

Bachelors of Science - Electrical Engineering & Computer Science

Missouri University of Science & Technology - Rolla, Missouri - GPA: 3.2 - 2018

Associates of Applied Science - Aerospace Technology & Maintenance

Community College of the Air Force - Wichita, Kansas - GPA: 4.0 - 2014

TOOLS

	Years
Mechanical, electrical, pneumatic hand and power tools	20+
Office and Documentation: Excel, Access, PowerPoint, Word, Visio	20+
Strong interpersonal and communication team skills	18+
Read and understand technical drawings, schematics, data reports	15+
Programming Software: C/C++, Python, Verilog, Assembly	4+
Statistical Tools: MATLAB, R-Studio, NI LabVIEW	3+
CAD: OnShape, AutoCAD, currently learning NX	2+