Blaine Allen

I'm determined to help accelerate the advent of the Space Age. My experiences in extreme pressure situations offer exceptional qualifications in several fields critical to the SpaceX mission.

EDUCATION

Computer Engineering EE + CS
Masters of Science
GPA: 3.5 | 2018-2023
Missouri University of Science & Tech
***Coursework:** Mechanical vibrations, statistical data analysis, advanced computational intelligence, additive metal manufacturing design and optimization, control systems, etc.*

Computer Engineering EE + CS
Bachelors of Science
GPA: 3.2 | 2014-2018
Missouri University of Science & Tech

Aerospace Maintenance Technology
Associates of Applied Science
*** Military A&P Equivalent ***
GPA: 4.0 | 2011-2014
Community College of the Air Force

ACCOMPLISHMENTS

Built and led Community Volunteer Park, Beach Cleanup Projects - Removed over 12,000 gallons of debris from parks and Boca Chica Beach. *2015, 2020, 2021, 2022, 2023*

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

Published 4 engineering papers in brain-machine interface, electrical time series analysis, and fluid systems. - see Google Scholar. *2021, 2022*

Startup engineer and founder - Designed and managed bio-inspired computing system team. - 2016 to 2018

Ironman Triathlete (140.6, 70.3) *2016, 2018*

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

EXPERIENCE (see website for summaries)

Graduate Research Engineer - DoD doctoral work

Missouri University of Science & Technology - *Rolla, Missouri*
Applied Computational Intelligence Laboratory - Electrical & Computer Eng 2020 - 2023
Mechatronics & Controls Laboratory - Mechanical & Aerospace Eng 2018 - 2020

- Engineered from first principles the first ever quantitative head injury prognosis method using partial differential equations modeling of fluid physics for US Army.
- Built quantitative head injury assessment of electrical brain signal data using time series analysis, wavelet convolution, machine learning, and source reconstruction.
- Designed brain-machine interface mechatronic control systems. Electrical time series analysis, signal processing for ~40 bits/min 3-axis thought-control output.
- Instructed senior mechanical engineering systems design and experimentation 2x (mechanical, electrical, heat transfer, high-pressure fluids), 5-year Physics tutor.

Engineer & Astronomical Science Educator

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

- NASA ISS Downlink RGV 2023, NASA Students to Launch, Guiding design of hybrid rocket (NO_2 + HTPB) for high school team for 10,000 ft altitude launch attempt.
- Engineered and oversaw structural and mechanical upgrades and repair of telescope observatory at the Southmost Library for the city of Brownsville.

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

Supervised and performed the inspection, production, and hands-on maintenance of all aircraft systems. Responsible to sign off on final system checkouts for crewed flight.

- Accelerated operational checks and 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.
- Responsible for identifying potential hazards, root cause analysis, and overseeing repairs in Preflight and Postflight operational procedures of suitability for flight.
- Thrived in a fast-paced environment with aggressive timelines on over 700 missions and combat zone deployment. 100% mission success and QA record.

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	5+
Statistical Tools: MATLAB, R-Studio, NI LabVIEW	5+
CAD: OnShape, AutoCAD, currently learning NX	4+