Tyler Jones

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SUMMARY

Driven engineer with strong analytical and troubleshooting skills with experience in liquid rocket engine design, instrumentation, and testing. Skilled in complex system development and testing, with 10+ years of product design and manufacturing experience.

AEROSPACE EDUCATION

Aerospace Engineering | Bachelor of Science
The University of Texas at Arlington
December 2024 completion

Aerospace Vehicle Design Capstone - Geometry Lead
This project focused on the determination of a novel aerospace flight vehicle system via the development and application of a multi-disciplinary design synthesis methodology to an open-ended design problem. Required devising innovative design solutions which cannot be directly extracted from existing applications.

- Derived scaling laws for novel aerospace vehicle configurations
- Aerospace vehicle configuration and loft design and management
- Synthesize needs and inputs from multiple disciplines
- Developed the vehicle mathematical surface and outer mold line definition to enable multi-disciplinary analysis and detail design
- Model and mesh optimization to speed simulation runs
- Publication of Conference Paper (First Author) pending

AERO MAVERICKS - RESEARCH DIVISION

Liquid Rocket Engine team - Chief Engineer
- Led the design, development, and construction of a bipropellant liquid rocket engine and test stand, including the complete design of a unique triplet injector and combustion chamber suitable for manufacturing in the university machine shop.
- Design of custom cavitating venturi flow control devices.
- Responsible for review and approval of GD&T engineering drawings of complex parts for manufacture (e.g., injector, chamber, cavitating venturi)
- Led the development of a scratch built data acquisition and control system including GUI software to enable real-time system monitoring, control, and remote data logging.
- Developed test procedures to ensure safe, repeatable system testing. Assessed and programmed system hold and abort conditions.
- Hands on experience with electronic systems, PCB design and manufacture, and debugging in a testing environment (e.g., data logging and network concepts, system debugging, board troubleshooting)

Skills learned: Multi-disciplinary team leadership, test procedure development and execution, instrumentation and data acquisition system design

Liquid Rocket Engine team - Feed Systems Lead
- Responsible for the design, construction, and testing of a blowdown propellant delivery system for a liquid rocket engine test stand
- Creation of P&ID schematics and test stand instrumentation design, integration, and validation
- Design, sizing, and testing of cavitating venturis to control propellant mass flow rates into injector
- Performed tank pressurization proof tests up to 1000 psi and pneumatic valve testing, and flow rate testing for pressurant and main propellant lines

AERO MAVERICKS - RESEARCH DIVISION

- Hands on experience working with feed system components and concepts including Swagelok type components, fittings, valves, pressure regulators, relief valves, high pressure systems

CERTIFICATES

05/2024

Unmanned Vehicle Systems

- Control system design and tuning to complete a variety of tasks in multiple environments
- Navigation by GPS, RTK, odometry, LiDAR, visual imaging
- Experienced in sensor fusion and path planning algorithms to support planning and obstacle avoidance
- Power management and signal noise abatement
- Programming of Micro Controllers to drive unmanned mobile platforms

Level 1 High Power Rocket
National Association of Rocketry

- Scratch-built all carbon fiber rocket.

OTHER EXPERIENCE

Jones Furniture and Design; Owner

01/2011 – 08/2019 DFW, TEXAS METROPLEX

- Executed the design and construction of furniture, products, and architectural interiors
- Implemented innovative design techniques to meet client specifications
- Managed all aspects of projects from initial concept to final installation, ensuring customer satisfaction and project success

Turner Woodworks Inc

07/2008 – 01/2011 MEMPHIS, TENNESSEE

- Produced high-end custom cabinets, overseeing all in-shop finishing and cabinet installation.
- Demonstrated expertise in crafting and finishing cabinets to meet client specifications.
- Installed cabinets with precision and attention to detail to ensure superior quality.

SKILLS

Analytic Geometry | Multidisciplinary Design & Collaboration | Data Collection & Analysis | Prototype & product testing | Respected Leader

Software + Coding Proficiency: MATLAB | Solidworks | Ansys | LabVIEW | C/C++