

Yousef Saleh

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EDUCATION

Doctor of Philosophy, Mechanical Engineering, Spring 2024 Florida State University	Tallahassee, FL
Master of Science, Mechanical Engineering, December 2022 Florida State University	Tallahassee, FL
Bachelor of Science, Aerospace Engineering, December 2018 The University of Texas at Austin	Austin, TX

EXPERIENCE

Graduate Research Engineer, Florida State University **08/2019 – present**

- Operated a high-pressure anechoic facility with stagnation temperatures up to 1500 K, generating supersonic jets up to a fully expanded Mach number of 2.5.
- Produce flow visualizations through recognized techniques such as Shadowgraph, Schlieren, and Particle Image Velocimetry (PIV)
- Recorded and Analyzed data obtained using a variety of transducers to obtain spectral characteristics and recognize the acoustic capabilities of various types of nozzles and forms of active & passive flow control
- Exposure to high Overall Sound Pressure Level (OASPL) sounds and experience on how to mitigate and control
- Analyze continuous time signals and perform digital signal processing on discrete time signals
- Authored multiple conference and peer-reviewed journal papers and technical instructions/documentation
- Automate experimental processes to rapidly collect and process billions of data points to develop better understandings of the problems investigated
- Designed and developed a mechanism to rotate a supersonic nozzle in-situ, in increments of 0.25°, in order to map the acoustics generated by the jet

Research Assistant, The University of Texas at Austin **12/2016 – 12/2018**

- Initiated new process of data collection which increased efficiency from 92% to 100% through innovation of the LabVIEW software that controls the mechanical devices, instruments, and transducers, data collection units, and tanks that govern the Mach 1.8 wind tunnel
- Integrated a system of high-pressure jet streams, in conjunction with a ramp contained within the wind tunnel to introduce pressure perturbations into the flow
- Construct a PID controller to maintain the location of the shock train in the face of pressure disturbances regardless of frequency or magnitude
- Build hardware and software applications to further understand flow properties and analyze physical behaviors

ACADEMIC & LEADERSHIP EXPERIENCES

Chief Engineer, Aircraft Design, The University of Texas at Austin **01/2018 – 05/2018**

- Managed a team of 8 engineers to meet requirements, such as wing loading, payload, mass, speed, duration, risk assessment, sizing, and power, as requested by the customer in the RFI
- Evaluated control surfaces, electrical connections & wires, sensors, and autopilot systems
- Performed risk assessment and generated risk mitigation protocols
- Developed an Unmanned Air System (UAS) capable of following a flight path for assistance with fire & rescue emergency services via surveillance and payload drops

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President, The University of Texas Water Ski Team

11/2016 – 11/2017

- Coordinated 60 members with a 10-person executive officer board to produce new forms of revenue, established a modern website, designed advertisements to accentuate the team brand across the nation
- Oversaw use of \$55,000 to lease a competition ski lake, procure new equipment, uphold and maintain a boat, cover traveling & accommodation costs, and restructured merchandise acquisition and distribution
- Refocused the team towards competitiveness and recruited a coach to accelerate individual growth
- Develop a long-term plan for the growth of the team and talent development

SKILLS

- Experienced with C, MATLAB, Python, SOLIDWORKS, LabVIEW, Office, HTML, CSS, JavaScript, oscilloscopes, multimeters, power supplies, lab equipment, active noise control, signal generators, anechoic chambers and their specifications
- Adept with high pressure systems, data acquisition, microphones, discrete and continuous time signal processes, labs, audio analysis, acoustic measurements using tools like B&K microphones, and digital signal processing
- Strong oral & written communication, Self-motivated, team leadership, time management, test automation, attention to detail, managing large sets of data, and problem solving
- Work independently or in teams and adapt communication methods
- Proficient with engineering management, scheduling, technical discussion, room acoustics, and explanation of complex concepts, passive noise control
- Fluent in Arabic and English

PUBLICATIONS

- **Saleh, Yousef**, Sellappan, P., Alvi, F.S., "Experimental Characterization of the Acoustics of a Supersonic Diamond Jet", AIAA Journal. In Progress
- Prasad, A., **Saleh, Yousef**, et al. "Effects of expansion ratio and nozzle asymmetry on the flow-field of a diamond jet," *AIAA journal*, 2022. In advance.
- Prasad A., **Saleh, Yousef**, et al. "Near-field and far-field effects of heating in an over-expanded Mach 2 diamond jet." *AIAA SCITECH 2022 Forum*. 2022.
- **Saleh, Yousef**, et al. "Experimental and Computational Study of a Mach 2 Diamond Jet." *AIAA Scitech 2021 Forum*. 2021.
- Vanstone, Leon, **Saleh, Yousef**, et al. "Closed-loop control of unstart in a Mach 1.8 isolator." *Journal of Propulsion and Power* 36.1 (2020): 153-157. 2020.