Raymond (Cody) Harris

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Education

Bachelor of Science in Aerospace Engineering   May 2021
The University of Texas at Arlington
- GPA: 3.2
- Minors in Mechanical Engineering, and Mathematics
- Recipient of the Maverick Academic Scholarship

Projects at The University of Texas at Arlington

Chief Engineer for Capstone Senior Design Project
- Led a team of 20 student engineers in feasibility analysis of Virgin Galactic WhiteKnightTwo and SpaceShipTwo
- Performed research to determine best synthesis and sizing of SpaceShipTwo and the combined vehicle flight
- Organized a midsemester update of the team in report and presentation format

Aircraft Engine Design and Analysis
- Performed a parametric design and analysis of various engines including turbofan, turbojet, and ramjet
- Designed and analyzed the performance characteristics needed for a two-stage rocket powered vehicle

Wind Tunnel Tests and Analysis
- Performed aerodynamics analysis of various objects inside low and high-speed wind tunnels
- Calculated flow properties of a CD nozzle experiencing subsonic to hypersonic flow

Otto Cycle Parametric Analysis
- Researched equations for isentropic and non-isentropic analysis
- Wrote MATLAB code to perform isentropic and non-isentropic analysis of Otto Cycle
- Performed parametric analysis regarding initial pressure, initial temperature, heat addition, compression ratio, compression efficiency, and expansion efficiency
- Optimized cycle for mean effective pressure and thermal efficiency

Research at The University of Texas at Arlington

UTA SUAS Competition   9/2019 – 5/2020
- Collaborated with peer engineers to determine mission requirements
- Proposed different methods of fulfilling mission requirements
- Theorized the flight mechanics and aerodynamics of an autonomous drone

Nitinol Metal Engine Driven by Hot Water   1/2019 – 4/2019
- Designed a lightweight 3D printable vehicle with peers to increase efficiency
- Computed estimates of how long the engine will run based on varying designs
- Finalized 2 different sized working car models that utilized Nitinol
- Compared 4 different types of nitinol to determine optimal Nitinol for engine use

Work Experience

Aircraft Interior Specialist   6/2014 – 8/2020
Enterprise Interiors – Addison, Tx   5 hrs/week
- Determined the sources of electrical and mechanical problems
- Disassembled the interior of aircraft including Falcon, Cessna, and Boeing
- Refurbished the interiors aircraft to exceed employer standards
- Inventoried and organized parts and tools needed for project work to increase efficiency

Lead Resident Assistant   5/2019 – 5/2020
University of Texas at Arlington – Arlington, Tx   30 hrs/week
- Lead a group of other resident assistants to fulfill tasks assigned by resident directors
- Predict potential problems between residents and worked towards future solutions
- Delegate tasks to coworkers and assist if problems arise to ensure proper requirements are met
- Produced solutions to assist residents with personal and educational issues

SKILLS

- Matlab, Solidworks, Altair Modeling Suite, Python, SQL, LabView, HTML, CSS, MS Office Suite
- Proficient with hand and power tools
- Experienced with AIAA technical report writing