Nicholas McCormick

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WORK EXPERIENCE

NASA LANGLEY RESEARCH CENTER   **Hampton, VA**
Aerospace Engineering Research Intern – Flow Physics and Control   *Jun. 2023 – Aug. 2023*

- Analyzed multiple bleed slot designs for the existing Supersonic Low Disturbance Tunnel a multi-million-dollar Mach 6 quiet wind tunnel design that will be constructed at Langley Research Center within the next 5 to 10 years
- Developed multiple Python scripts that automated the workflow of analyzing the time-accurate wind tunnel simulation data, and other workflows involving analyzing simulation data done in the branch using Tecplot and frequency analyzing libraries in Python
- Applied existing and gained aerodynamic knowledge and understanding to learn how distinctive design parameters affect the wind tunnel performance, including boundary layer transition and turbulence analysis in subsonic, transonic, supersonic, and hypersonic flow regimes

HNI   **Muscatine, IA**
Product Design Engineer Intern   *May 2022 – Aug. 2022*

- Utilized Oracle BI to identify components in guest seating products that could be standardized to save costs in a supplier transition
- Analyzed technical drawings combined with assembly and quality testing to verify standardized components to be implemented into existing designs. Integrated standardized design changes with PTC Creo and Windchill to resolve encountered incompatibilities
- Developed recommendations for over 50 chairs including material selection and design changes needed to standardize each model

HEARTH & HOME TECHNOLOGIES   **Mount Pleasant, IA**
Material Handler   *Dec. 2020 – Aug. 2021*

- Organized daily products in receiving and shipment while cataloguing all product data to a centralized Oracle BI inventory database
- Completed all trainings and certifications for operating a forklift to transport various products from trucks and shipping containers
- Worked quickly and efficiently while maintaining a safe work environment by following all OSHA and company safety guidelines

PROJECTS

M2I: STELLAR PROJECT   **Ames, IA**
Project Lead   *Aug. 2021 – Jun. 2023*

- Leading the research and development of the first liquid rocket engine at Iowa State University in a non-combustible environment
- Applying advanced rocket theory, leadership, and technical skills including 3D modeling, programing, and virtual engineering simulation to design, produce, and test liquid rocket engine components
- Utilizing 3D printing to manufacture components for operation in cold flow testing to validate theoretical simulations using PIV methods and modify design variables to achieve improved performance

EDUCATION

IOWA STATE UNIVERSITY   **Ames, IA**
Aerospace Engineering, Senior, GPA: 3.74   *Aug. 2020 – May 2024*

Clubs and Activities:
- 3D Printing Club
- SOLIDWORKS Club

Class Projects:
- Designed a "lighter than air" drone with limited resources and constraints that had the ability to navigate through an obstacle course
- Researched and modeled a highly detailed 1:1 scale model of the exterior of an Airbus's aircraft, the Beluga XL, using SolidWorks
- Fabricated a mission and designed a theoretical aircraft capable of completing the mission applying skills in MATLAB and XFLR5
- Designed and optimized orbits and trajectories from Earth to Mars with impulse and flyby maneuvers applying STK and MATLAB
- Designed a memory test to be applied in dementia research using an Adafruit CPX board and Arduino and C programming languages
- Optimized an airfoil with python using neural networks given an airfoil, the Mach and Reynolds numbers, and a target lift coefficient
- Designing a CubeSat and a mission investigating the ISS observing damage and deterioration with a team of 5 additional members

RELEVANT SKILLS

SOLIDWORKS	PTC Creo/Windchill	Autodesk Inventor	Shapr3D
ANSYS	FUN3D	Tecplot	STK
Python	MATLAB	C	Linux

AWARDS

TA Choice Award	*June 2023*	Eagle Scout	*December 2019*
Top 2% of Dean's List	*December 2020*	Boy's State	*June 2019*