Nancy Zheng

nancy.zheng@ucf.edu | (347) 656 – 4254 | Orlando, FL | LinkedIn: https://www.linkedin.com/in/nancy-zheng-104113191/

Education

University of Central Florida — Expected Year: 2025
Master of Science in Mechanical Engineering | Mechanical Systems Track — GPA: 4.00

University of Central Florida | Burnett Honors Scholar — Aug 2019 – May 2023
Bachelor of Science in Mechanical Engineering | Minor in Computer Science — GPA: 3.79

Technical Skills/ Certifications

Microsoft Office Specialist	Python	Abaqus
SolidWorks CWSA certified	C programming	COMSOL
NX	MATLAB	LabVIEW

Research Experience

Composite Materials and Structures Lab — *May 2023 – present*

Resin printing

- Gain understanding in different manufacturing technologies
- Analyze papers on current development on DLP – SLA and volumetric 3D printing and possible applications with different materials
- Conducted experimental tests by altering photo-initiator chemical compound and concentrations to improve polymerization
- Communicate and discuss weekly progress with advisor and group members

Fabrication of Ceramic Heat Exchanger — *May 2024 – present*

- Design heat exchanger to reduce heat accumulation and damage to material surface for leading edge
- Perform material characterization on additively manufactured ceramic samples (SEM, EDS, etc)
- Measure porosity and density of printed samples using Archimedes principal

Work Experience

Graduate Teaching Assistant (GTA) — *Aug 2023 – present*

- Coordinate with professor and other teaching assistants to grade assignments and exams
- Design formula sheets for exams, aid in proctoring exams, and conduct post-exam reviews
- Hold office hours twice a week to assist students in achieving learning objectives

Engineering Intern (Systems) – Vaya Space — *Jan 2023 – May 2023*

- Supported the development of Preliminary Design Review (PDR) and Critical Design Review (CDR) criteria alongside a team of multi-disciplinary engineers
- Briefed leads on a weekly basis to ensure individual objectives were consistent with the overall goals and schedule of the systems team
- Assisted in the production of program and project level requirements documentation for the development, testing, and production of a hybrid rocket system
- Gained extensive experience in requirements definition, project management, systems engineering, and several key elements of launch vehicle development

Projects

Heat Transfer FEA Analysis — *Jan 2024 – May 2024*

- Performed heat transfer analysis on hollow cylinder model and study the convergence with plane stress and beam elements
- Compared simulation result with analytical solution from EXACT Analytical Conduction Toolbox

Maze Solving and Line Following Robot — *Nov 2023 – Dec 2023*

- Programmed TI – RLSK Max robot through Arduino IDE to maneuver a maze using bumper switches & ultrasound sensors and determine turn angle to follow a line with IR sensors
- Send commands using app control to move robot with Bluetooth

RASCAL Payload Handling Senior Design – Lunar Transport Vehicle theme — *Aug 2022 – May 2023*

- Used KSP's built-in physics engine for stimulating lunar transport vehicle operations
- Commanded automated routines through krpc (KSP mod) with python script