XIAOYAO GAO

Houston, TX • xg18@rice.edu • (409) 434-9809 • xiaoyaogao.github.io

EDUCATION

Rice University, Houston, TX August 2017 – May 2021
Bachelor of Science in Mechanical Engineering with Engineering Design Minor

- *GPA*: 3.87/4.0

EXPERIENCE

Research Assistant August 2019 – Present
Rice University Mechanical Engineering Department, Houston, TX

- Design and program Arduino-based sensor mounting assembly to study the vibration/whirling of oil drill string
- Implement MATLAB program to model nonlinear multi-DOF drill string dynamics using computational methods

Systems Engineering Intern
The Boeing Company, Everett, WA May 2020 – August 2020

- Created Tableau statistics dashboard and static HTML/CSS web page to track and visualize employee recognition data, promoting engagement and culture change in BCA ALEI, a 100+ person organization
- Followed AGILE methodology in defining stakeholder need, generating user stories from 12+ user interviews, organizing project sprints and requirements
- Wrote Python scripts to data mine, web scrape, and compile recognition data from 4+ Excel extracts
- Received training on MBSE fundamentals and SysML

Lab Technician September 2018 – May 2020
Oshman Engineering Design Kitchen (OEDK), Houston, TX

- Train and support students (~20 students present per shift) with using makerspace rapid prototyping machines
- Led bimonthly workshops with 5-10 participants on basics of SLA 3D printing, laser cutting, and molding/casting

Engineering Intern May 2019 – August 2019
Barnes Aerospace, Windsor, CT

- Designed and created drawing for EDM electrode inspection fixture with 6+ components using Siemens NX and GD&T, which was approved for production
- Initiated PFMEA (process failure mode element analysis) for new grinder in jet engine production process
- Received basic training on lean six sigma and metallurgy

PROJECTS

Drawing Robot April 2020 – May 2020

- Designed, simulated, and modeled 3DOF servo-controlled robotic drawing arm with MATLAB and SolidWorks
- Used image processing algorithms to convert user-upload image files into optimized robot drawing trajectory
- Calculated forward and inverse kinematics of robot to determine motor movement and joint position

TECHNICAL SKILLS

Software: SolidWorks, NX/UG, Microsoft Excel, Tableau, Git, Linux, some familiarity with SysML
Programming: Python, MATLAB, Simulink, HTML/CSS, Arduino, some familiarity with C/C++
Fabrication: 3D printing, CNC milling, soldering, molding/casting, basic welding

LEADERSHIP

Internal Vice President – *Rice ASME (American Society of Mechanical Engineers)* May 2020 – Present
Co-President & Drone Team Lead - *Rice Robotics Club* May 2019 – Present
Personnel Manager & Section Leader – *Rice Marching Owl Band* May 2019 – May 2020