Miranda Lao

(949) 374-7513
mirandalao.com
himirandalao@gmail.com

Education

Olin College of Engineering

B.S. in Engineering with Concentration in Mathematics

May 2020 | GPA: 3.87

Selected Coursework

Topics in Abstract Algebra
Discrete & Convex Geometry
User-Oriented Collaborative Design
Affordable Design & Entrepreneurship
Design for Manufacture
Mechanics of Solids and Structures
Intro to Mechanical Prototyping
Graph Theory
Elements of Analysis I
Number Theory
Machine Learning
Thermodynamics
Quantum Physics
Products and Markets

Experience

Innovative Decisions International

Associate Analyst

Vienna, VA | Jul 2020 - Present

Automated processing and preparation of data for further model ingestion using Python and Microsoft Excel, with parameters customizable by a user through a GUI. Created data visualizations using Tableau and Power BI. Created User Guides and Use Cases to document updates to software packages. Participated in courses on Bayesian Networks and Cost Estimation and Analysis.

Southern University of Science and Technology

Da Vinci Challenge Camp Program Instructor

Shenzhen, China | Jun 2019 - Aug 2019

Guided multiple first-year undergraduate student teams through a first-iteration project-based engineering camp. Worked with program coordinators and other instructors to design and troubleshoot curriculum for the camp. Gave presentations to students on various topics, such as Design Thinking and Rapid Prototyping. Translated (Mandarin / English) between international instructors, Chinese national instructors, and students.

Aberdeen Test Center

Mechanical Design Engineering Intern

Aberdeen Proving Grounds, MD | Jun 2018 - Aug 2018

Assisted engineers in the Engineering Design and Development Branch by performing calculations, making and reviewing CAD drawings, and performing test-site jobs. Worked with another intern on various CAD designs, project assembly, and machining tasks. Participated in design reviews and attended program briefings.

Selected Projects

Early Hearing Health Screening

Needham, MA | Sep 2019 - May 2020

Senior Engineering capstone project done through the Affordable Design and Entrepreneurship program, part of an eight person team. Launched a new project focused on making early hearing health screening more accessible in majority world contexts. Laid a foundation for a multi-year project by forming connections with existing organizations, researching existing otoacoustic emissions technology, and finding a suitable location to partner with for eventual deployment.

Robot Hand

Needham, MA | Oct 2019 - Dec 2019

Final project for the Design for Manufacture course, part of a five person team. Redesigned a robot hand to be more cost-effective, easier to manufacture and assemble, and to be compatible with a UR5 robot arm. Reduced original bill of materials cost from ~$1600 to $418. Actualized our design through fabrication and presented a working demo.

3D-Printable Origami Glider

Needham, MA | Jun 2017 - Aug 2017

A 10-week summer research project under Professor Chris Lee at Olin College of Engineering, part of a five person team. Examined the applicability of origami flat-folding patterns to create self-deploying fixed-wing aircraft, and viability of 3D-printing techniques to fabricate them. Went through design iterations, ending with a working final prototype that self-deployed and glided to the ground from an initial drop.

Skills

Data Processing and Visualization

Python
Microsoft Excel (with VBA)
Tableau
Power BI

Other Programming

Java
MATLAB
Git
Processing

Documentation

Microsoft Office Suite
LaTeX
HTML / CSS
Adobe Creative Suite
- Photoshop
- Illustrator
- InDesign
- Premier

Mechanical Design

DFM/DFA Analysis
FEA
CAD
(Solidworks, Fusion 360)
CAM
(Fusion 360)