# SUMMARY OF QUALIFICATIONS

* Fourteen years of mechanical and structural design experience, working with SolidWorks and CATIA.
* Knowledgeable in static, dynamic explicit, and thermal FEA.
* Strong interest in composite design and analysis, biocomposites, and renewable energy.
* Proficient in Mandarin Chinese and Spanish, ready to directly engage with overseas partners.

# EDUCATION

## UNIVERSITY OF WASHINGTON, Seattle, WA

### Master of Science in Mechanical Engineering, Expected Graduation June 2022

* Courses: Mechanical Engineering Analysis, Composite Design and Analysis, Nanocomposites and Biocomposites, Marine Renewable Energy, Advanced Manufacturing for Renewable Energy
* Planned Course of Study: Composites, Design for additive manufacturing, Renewable energy and green technology.

### Bachelor of Science in Mechanical Engineering, Cum Laude, June 2006

* Courses: Materials and Structures, CAD, FEA, Renewable Energy, Design for Environment.
* Projects: Formula SAE drivetrain design, Fuel Cell capstone project.

# RELEVANT EXPERIENCE

## UNIVERSITY OF WASHINGTON, Seattle, WA *2020 - Present*

### Graduate Student Researcher in the Meza Research Group

* Investigating structural and thermal properties of nano-scale 3D printed spinodal structures, under Professor Lucas Meza.
* Performing FEA analysis in Abaqus of nanostructures to determine design capability.
* Using machine learning to determine ideal structural topology to meet design needs.

### Composites Research Projects

* Researching the material properties, manufacturing, and applications for mycelium-based biocomposites.
* Studying the manufacture of cellulose fibers out of bacterial cellulose nanofibers.

## SAFRAN AEROSYSTEMS, Everett, WA *2015 - 2019*

### Design and Integration Engineer

* Conducted root cause analysis of failed valves, disassembling failed specimens and testing to confirm the problem.
* Developed a new 737 airstair with additional safety features and increased height. Managed all changes from start to finish, and built a full CATIA model.
* Designed an aircraft galley fluid waste disposal system, producing designs for structural support of valves, a tank, sensors, and electrical components.
* Coordinated directly with customer and supplier representatives to collaborate on designs.

## BOEING COMMERCIAL AIRPLANES, Everett, WA *2006 – 2012, 2014*

### Structural Design Engineer

* Designed aluminum and composite structural parts and assemblies on 747-8 and 767.
* Coordinated with production facilities from concept to production, to ensure ease of manufacture and assembly.
* Worked across groups and disciplines to manage design completion and define interfaces.
* Redesigned critical structural members to reduce weight and complexity.
* Implemented solutions to factory production problems by inspecting completed and installed parts, and examining drawing history for errors.

# ADDITIONAL EXPERIENCE

## KATERRA, Seattle, WA *2019 - 2020*

### Manufactured Assemblies Design Engineer

* Designed building components to be built in a factory and installed on a construction site, integrating structural, electrical, and plumbing components.
* Developed a bathroom kit in SolidWorks to provide detailed BOMs and drawings for assembly and installation.
* Created automated model, drawing, and CNC templates for steel wall panels using Catia 3DExperience.
* Built prototypes of manufactured building components to test part and assembly sizing, and to confirm tolerances.

## KVICHAK MARINE INDUSTRIES, Seattle, WA *2012 – 2014*

### Project Engineer

* Developed structure and mechanical system designs for aluminum hulled boats.
* Worked from concept to production providing designs and drawings in Solidworks.