

# Sean Wu

**Master's in Aerospace Engineering** with experience in Aerodynamics, Aircraft Configuration Design, and Optimization

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**Aerodynamics**  
**Wind Tunnel Testing**  
**Team Leadership**

**Aircraft Performance and Design**  
**Computational Fluid Dynamics (CFD)**  
**Technical Documentation and Presentation**

**MS, Mechanical and Aerospace Engineering**, University of California, Davis (Dec 2017)  
**BS, Aerospace Engineering**, University of Miami, FL (May 2014)

Computational  
Programming  
Productivity

OVERFLOW/ Chimera Grid Tools (2D/ steady), XFOIL, OpenVSP  
LabVIEW, MATLAB/ Simulink, Linux (Bash), Git  
MS Office (Excel, Word, PowerPoint), LaTeX

## WORK HISTORY

**Docent**, Museum of Discovery and Science, Fort Lauderdale, FL **08/2018-Present**

- Engage and educate visitors on a variety of STEM topics, including aviation, aerospace, and mechanics
- Participate in concept ideation for a \$1.25 million expansion of the aeronautics exhibit hall

**Graduate Student Researcher**, University of California, Davis **10/2014-12/2017**

- Lab manager for the aeronautical wind tunnel
- Developed an experimental test proposal for an airfoil with active flow control under contract for Boeing
- Engineered an improved pitot-traverse system using LabVIEW
- Reduced uncertainty in the UCD wind tunnel wake-measured drag by one order of magnitude
- Created wind tunnel safety and training protocols in collaboration with 2 university safety officers
- Mentored 6 undergraduates in experimental testing and computational fluid dynamics analysis of airfoils
- Led a 7-person weather balloon research team in the Mojave Desert

**Grader**, University of California, Davis **06/2017-08/2017**  
From the Wright Brothers to Drones and Quadcopters

**Teaching Assistant**, University of California, Davis **09/2015-06/2016**  
Aircraft Performance and Design; Fluid Dynamics

- Advised 66 students divided into 11 teams in the preliminary design of aerobatic and distributed-electric aircraft for AIAA and NASA competitions
- Researched advanced engineering solutions such as boundary-layer ingestion and blown-flaps
- Demonstrated use of aerodynamic design tools for aircraft performance analysis

**Intern**, NASA Glenn Research Center, Cleveland, OH **06/2015-08/2015**

- Contributed to the development of a flight trajectory optimization code in OpenMDAO
- Gained experience with professional software engineering practices

## ADDITIONAL EXPERIENCE

**Guest Lecturer**, University of California, Davis

02/2017 and 02/2018

- Took students through the conceptual design of a sample aircraft in one interactive class period
- Drafted a 3D aircraft model in real time using OpenVSP
- Demonstrated preliminary aircraft aerodynamic analysis

**Equipment Manager**, UC Davis Sailing Team

05/2016-09/2017

- Managed fleet of 9 collegiate racing sailboats
- Acquired 4 additional sailboats through donations and purchases
- Performed and taught composite laminate repairs
- Organized team regatta to Washington State with 17 participating teammates and over \$1600 in expenditures

### AWARDS AND CERTIFICATES

- Dean's Graduate Support Fellowship, UC Davis College of Engineering (2014)
- Certificate in Scholarly Teaching Strategies, UC Davis Center for Educational Effectiveness (2017)

**FAA Private Pilot:** Airplane Single-Engine Land; Glider  
Airmen Medical Certificate- Class 3, exp. 02/2020

**FAA Remote Pilot:** Small Unmanned Aircraft Systems (sUAS)

**Experimental Aircraft Homebuilding**, Van's RV-12  
Light Sport Aircraft Repairman-Inspection course completed

### RELEVANT PROJECTS

- Application of a Linear Magnetic Encoder for the Positioning of a Wind Tunnel Pitot-Static Traverse (2017)
- Microjets for High Lift Flow and Control: Definition of the Wind Tunnel Test (2017)
- Improving Short-Term Wind Power Forecasting through Measurements and Modeling of the Tehachapi Wind Resource Area (2016)
- Airfoil Optimization using an XFOIL-MATLAB Interface and PARSEC Shape Parameterization (2015)
- Design and Optimization of a Wind Energy Plant (2014)
- Electric Light Sport Aircraft- Senior Design Project (2014)
- Development of a 6-DOF Flight Simulator using MATLAB/ Simulink and FlightGear (2013)

### RELEVANT COURSES

- Advanced Aerodynamic Design and Optimization
- Aeroacoustics
- Intro. to Scientific Computing in Solid and Fluid Mechanics
- Composite Materials
- Manufacturing Technology and Machine Tools
- Wind Power Engineering