MILES CHAN

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EDUCATION

3/25	PhD Aerospace Engineering, California Institute of Technology 3.6/4.0
	Advisor: Dr. Beverley McKeon
	Visiting Student, Stanford University (09/23-03/25)
6/20	MS Aeronautics, California Institute of Technology 3.6/4.0
5/19	BS Mechanical Engineering, Georgia Institute of Technology 3.89/4.00

SELECTED WORK EXPERIENCE

6/20 – **Fluid Dynamics Modeling and Simulation Researcher**, Caltech & Stanford
Led the theoretical development and code implementation of a reduced order model using resolvent analysis which successfully predicts turbulent fluctuations in the roughness sublayer given only surface geometry and mean flow quantities. Contributed to novel wall model development for WMLES by generating data-informed, scaled resolvent mode representations of near wall turbulence. Presented key research results at conferences.

8/17 – 12/17 **Stress Analyst Co-Op**, Honda Aircraft Company
Developed software tools for automating the calculation of structural allowables (plastic bending, buckling, crippling) using Python. Contributed to point loads calculation validation efforts by developing software for computing shear-moment distributions in aircraft structure. Conducted design study for efficient I-beam section design under bending load. Analyzed theoretical and NASTRAN finite element panel buckling results.

1/17 – 5/17 **Flight Sciences Analyst Co-Op**, Honda Aircraft Company
Developed an analytical ground effect theory, validated using wind tunnel and flight test data, for prescribing angle of attack limits for takeoff flight test program. Created an analytical model for landing gear effect on aircraft lift, pitching moment, and drag.

5/16 – 8/16 **Design Engineer Co-Op**, Honda Aircraft Company
Improved fault isolation methods by creating decision trees, written procedures, and dedicated Garmin avionics page for flap actuation diagnostics. Investigated and categorized production defects for root cause analysis and redesign.

5/15 – 8/15 **Robotics Alliance Project Intern**, NASA Ames Research Center
Contributed to arena design for aerial robotics competition by evaluating methods for detecting high speed multi-rotors using Arduinos and sensors. Implemented hardware for sensor mounting and arena element parts using 3D printing and CAD.

SKILLS

High Performance Computing: DNS, LES (CharLES, OpenFOAM), shell scripting, SLURM
Data Analysis: MATLAB, Python
Computer Aided Design: SolidWorks, Autodesk Inventor, Fusion 360
Aerospace Tools: XFOIL, AVL, FEMAP, NASTRAN
Fabrication: waterjet, laser cutter, mill, lathe, FDM & resin 3D printing, CNC router, soldering, hand tools
Mechatronics: Arduino

AWARDS AND HONORS

9/19	Ig Nobel Physics Prize for research on wombat cubic poop
4/19	National Science Foundation Graduate Research Fellowship Honorable Mention

OTHER

Hobbies: violin, running, cycling