

Logan Halstrom

Department of Mechanical and Aerospace Engineering, One Shields Avenue, Davis, CA 95616
loganhaltrom@gmail.com • (530) 965-0755 • <https://github.com/lhalstro>

EDUCATION

University of California, Davis

- Ph.D. Candidate in Mechanical and Aerospace Engineering (GPA: 3.86) Sep 2013 – Sep 2020
Thesis: Computational Fluid Dynamics Simulation and Validation of Parachute Pendulum Motion
 - CFD simulation of rigid-geometry parachute motion and resulting unsteady aerodynamics
 - Validation and calibration by comparison to wind tunnel test
 - Insight into root cause of dynamic instability of fully-deployed parachutesAdvisor: Dr. Stephen Robinson
- Aerospace Engineering, B.S. and Mechanical Engineering, B.S. (GPA: 3.72) Jun 2013
 - Graduated with College Honors

EXPERIENCE

Johnson Space Center, National Aeronautics and Space Administration

- *Pathways Intern*, Applied Aeroscience and CFD Branch (EG3) Jun 2014 – Present
Responsibilities:
 - Designed and analyzed crewed spacecraft using Computational Fluid Dynamics simulation techniques
 - Created computational grids for modeling complex geometries and aerodynamic phenomena
 - Generated informative visual representations and animations of aerodynamic flow solutions**CFD Simulation and Analysis Projects:**
 - Simulated oscillatory motion and aerodynamics of crew reentry vehicle parachutes
 - Simulated dynamic loading of wind tunnel walls due to blockage from moving parachute
 - Simulated crew capsule separation during launch abort and analyzed unsteady proximity aerodynamics
 - Performed transonic stability analysis for RED-Data2 re-entry heating probe**Aerodynamics Projects:**
 - Developed a genetic algorithm for optimizing the Orion Flush Air Data System (FADS) sensor array
 - Developed a general-use FADS trajectory reconstruction algorithm**Supervisors:** Steve Labbe, Mark Hammerschmidt, and Ben Kirk
- *USRA Intern*, Aircraft Operations Division (CC3) Jul 2013 – Sep 2013
Responsibilities:
 - Developed and executed flight experiments
 - Managed aircraft operations logistics and scheduling
 - Gained and maintained familiarity with aircraft and piloting systems**Projects:**
 - Designed and conducted a pitot-static calibration flight test for the WB-57 aircraft
 - Performed experimental validation of GPS ground speed based pitot-static calibration technique
 - Assisted with Reduced Gravity Operations safety inspections**Supervisors:** Gregory Johnson and Jack Woods

University of California, Davis

- *Teaching Assistant*, Department of Mechanical and Aerospace Engineering Sep 2013 – Present
Responsibilities:
 - Updated coursework to reflect modern industry concepts and techniques
 - Held weekly lectures and office hours and fielded student questions about subject matter
 - Graded exams and project reports and managed special circumstances for students**Courses:**
 - *Applied Aerodynamics*: Compressible/Transonic flow, viscous effects and boundary layer theory, finite wings, aircraft equilibrium, panel methods
 - *Computational Aerodynamics*: 2D finite difference Euler methods, transonic small-disturbance theory
 - *Stability and Control of Aerospace Vehicles*: State-space representation, longitudinal and lateral stability
 - *Rocket Propulsion*: Fluid and thermodynamics of liquid and solid rocket engines**Supervisors:** Dr. Stephen Robinson, Dr. Jean-Pierre Delplanque, Dr. Ron Hess, and Dr. Mohamed Hafez

PROFESSIONAL AFFILIATIONS & ACTIVITIES	Aerosciences Journal Club , UC Davis	
	▪ Co-founder	2016 – 2018
	American Institute of Aeronautics and Astronautics , UC Davis Chapter	
	▪ Member	2011 – Present
	Advanced Modeling Aeronautics Team , UC Davis	
	▪ Captain	2012 – 2013
	• Designed and manufactured a model aircraft optimized for specific mission requirements	
	• Managed team members throughout all stages of the design process	
	• Competed and placed 2nd in the SAE 2013 Aero Design West Competition	
	▪ Member	2011 – 2012
SKILLS	Documentation/Presentation	
	▪ L ^A T _E X, Beamer, Microsoft Word, Power Point	
	Computing	
	▪ Linux, Python, MATLAB, FORTRAN, C++, High Performance Computing, MPI/OpenMP	
	Computational Fluid Dynamics	
AWARDS & SCHOLARSHIPS	▪ OVERFLOW, OpenFOAM, Chimera Grid Tools, Pointwise, Tecplot 360, ParaView	
	▪ Mechanical and Aerospace Engineering Departmental Fellowship, UC Davis	2019
	In recognition of meritorious accomplishments	
	▪ Joseph L. Steger Fellowship, Joseph L. Steger Foundation	2016 – 2018
	Fellowship awarded in recognition of outstanding academic record and excellent work in the area of Computational Fluid Dynamics	
	▪ Group Achievement Award, National Aeronautics and Space Administration	2017
	For development of an advanced heatshield flight experiment as part of the Xby2016 effort, helping extend the knowledge of aerothermal and TPS modeling through flight	
	▪ Outstanding Achievement, NASA Johnson Space Center Office of Education	2015
	For outstanding contributions as an intern for the Johnson Space Center	
	▪ Service Award, UC Davis Department of Mechanical Engineering	2013
	For service as the captain of the Advanced Modeling Aeronautics Team	
	▪ Regents' Scholar, University of California	2011 – 2013
	The most prestigious award on the UC Davis campus given to students entering with a GPA higher than 3.80	
	▪ Forrest Mitchell Award, Northern California Scholarship Federation	2012
	For maintaining the highest GPA of any Junior scholarship recipient	
LANGUAGES	▪ English: Native language	
	▪ Spanish: Basic (speaking, reading, writing)	
	▪ Russian: Basic (speaking, reading, writing)	
INTERESTS	Backpacking, running, cooking, gardening, digital photography, acoustic guitar, aviation	

[CV created on 04-14-2020]