Logan Halstrom

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EDUCATION

- **University of California, Davis** **Davis, CA**
  Ph.D. Mechanical and Aerospace Engineering (GPA: 3.86) *Sep 2013 – Sep 2020*
  - Thesis: Computational Fluid Dynamics Simulation and Validation of Parachute Pendulum Motion
  - Advisor: Dr. Stephen Robinson

  B.S. Aerospace Engineering and B.S. Mechanical Engineering (GPA: 3.72) *Jun 2013*
  - Graduated with College Honors

EXPERIENCE

- **Johnson Space Center, National Aeronautics and Space Administration** **Houston, TX**
  NASA 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
  - **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
    - Performed transonic stability analysis for RED-Data2 re-entry heating probe
  - **Supervisors:** Ben Kirk, Steve Labbe

  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:** Son Nguyen, Gregory Johnson

- **UC Davis Center for Human/Robotics/Vehicle Integration and Performance** **Davis, CA**
  Graduate Student Researcher *2013 – Current*
  - Development and validation of methods to assess task performance in real-time and provide immediate feedback to improve mission outcomes for spaceflight operations
  - Customized refresher and just-in-time training for long-duration spaceflight crews
  - Simulation development for the analysis of human performance and human-automation interaction
  - Multiple human subject research campaigns
  - Computer-vision techniques for autonomous spacecraft rendezvous and docking
  - Optimal control theory for spacecraft attitude pointing

- **San José State University Research Foundation** — **NASA Ames Research Center, Moffett Field, CA**
  Research Intern — *June – September 2016, June – August 2017*
  - Designed and built a prototype of a mobile procedure viewer with the goals of reducing execution time, training time, and procedure execution errors for astronauts on the International Space Station
  - Directed design interns on prototyping, usability testing, analysis and feasibility tasks
  - Mentored software development interns learning Arduino, node, and Unity to accomplish tasks
  - Integrated HoloLens augmented reality display and ESP8266 hardware through a MQTT broker
  - Software development with Unity, node, and C++
- **Foodfully, Inc.** — **Davis, CA**
  Lead Software Developer — *2015-2018*
  - Development of web, iOS, and Android mobile apps to reduce household food waste
  - Full-stack software development in Javascript, Meteor, MongoDB, and React
- **Teachers Curriculum Institute** — **Mountain View, CA**
  Software Developer — *2013-2015*
  - Development of interactive science curriculum, comprehensive educational suite, and online store
  - Software development in JavaScript, HTML5, and Ruby on Rails
- **Handstand Inc.** — **Mountain View, CA**
  Content Administrator — *2011 – 2012*
  - Curated and published a library of over 2,000 creative commons and open source textbooks for free use (over 2 million views as of January 2017 (see https://archive.org/details/opensource_textbooks)
  - Assisted with the design, creation, and quality assurance of both the mobile and web applications
  - Selected science, technology, engineering, and mathematics (STEM) textbooks for use with Android education application
  - Effectively managed small teams of 3-7 people to complete various start up projects
- **University of California, Santa Cruz** — **Santa Cruz, CA**
  Undergraduate Student Researcher — *2010 – 2012*
  - Search for 'smoking gun' signatures of dark matter in the galactic center
  - High energy gamma-ray timing analyses with the Fermi Gamma Ray Telescope

  Junior Specialist — *2009 – 2010, Balloon Campaigns 2011-13*
  - Computer-aided testing and evaluation of hardware and software for use on both test and final BARREL (Balloon Array for RBSP Relativistic Electron Losses) balloon campaigns
  - Monitored data acquisition and performance of balloons during multiple campaigns to determine the electron loss rate during RBSP relativistic electron events

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SKILLS

Core Languages: Python, Javascript
Additional Languages: C#, FORTRAN, C++, MATLAB, Simulink, LaTeX, jQuery, Ruby on Rails, HTML5, CSS3
Development Environments: Linux, macOS, Windows, Android, iOS

[*CV created on 04-14-2020*]