

EDUCATION – *The University of Texas at Austin***M.S. in Aerospace Engineering**, Controls, Autonomy and Robotics 3.03/4.0

May 2017

B.S. in Aerospace Engineering, Aeronautics: GPA 3.61/4.0

May 2016

EXPERIENCE

Senior Controls Engineer: General Atomics ASI, Guidance, Navigation and Control 11/19 – Present

- Implemented nonlinear aerodynamic data and payload deployment into simulation using C and VIM
- Recaptured legacy flight control actuation system by recoding source C code blocks into Simulink 6DOF models
- Updated 6DOF models with new parameters, dynamics and backlash functionality with internal autocoding standards
- Autocoded 6DOF models and implemented models into C source simulation
- Created end-to-end gap analysis tool for component verification and system-level validation
- Flight Controls Department servo subject matter expert

Controls Engineer: General Atomics Aeronautical Systems Inc., Guidance, Navigation and Control 11/17 – 11/19

- Obtained Active Secret Security Clearance; In-scope [Tier 3], Investigation (11/2018)
- Ran simulations and analysis for the development of control law design by writing Python automation test scripts, modifying source flight and simulation code, running LTI analysis, writing post-processing scripts and analysis tools
- Diagnosed erratic behavior in flight testing by using data analysis tools to determine the root causes and solution
- Developed requirements for control surface mis-rigging by running an error tolerance study within the simulation
- Verified implementation of new system of autocoded flight code through simulation testing using Python scripts
- Completed resource recovery, upgrades and improvements to deprecated and undocumented LTI tool
- Devised plan and procedure for gap analysis between simulator and flight data

Student Flight Engineer: Boeing, Space Launch System (SLS), Guidance, Navigation and Control 5/16 - 8/16

- Solved problem with miscommunication between two team models, updated source code with solution
- Completed preliminary technical feasibility assessments in support of a trade study for next generation of CST-100
- Created Entry, Descent and Landing MATLAB models from scratch including trajectory and heating simulations
- Supported flight engineers with ascent performance simulations and trajectory modeling

Student Engineer: Boeing, Space Launch System, Manufacturing Engineering 5/15 - 8/15

- Developed plan for a relational database with a liaison engineer between manufacturing and supply chain teams to solve major problem with ordering, tracking and storing of consumable materials for manufacturing work orders
- Analyzed proprietary process instructions and industry specifications to confirm drawing requirements
- Supported Integrated Product Team (IPT) with the integration of technical solutions across multiple disciplines
- Collaborated with Manufacturing Engineers by authoring manufacturing plans for technicians

Student Engineer: Boeing, Space Launch System, Main Propulsion, Feedlines 5/14 - 8/14

- Supported Responsible Engineers for cryogenic feedline components: tracked drawings and Nondestructive Evaluation technique sheets; provided on-site technical support to the SLS CDR
- Data processing and analysis of CFD models for Flow Induced Vibrations on feedlines
- Participated in Lean manufacturing courses and challenge to develop a new technique for reusable re-entry vehicles; presented findings to SLS program management
- Under large IPT structure; learned about cost and schedule integration and importance of schedule execution
- Participated in week long Critical Design Review for Core Stage SLS

Philips Scholar: Air Force Research Laboratory, Kirtland Air Force Base 6/13 - 8/13

- Obtained U.S. Secret Security Clearance 6/13 under University Space Research Association
- Developed new technique for deployable stray-light telescope baffle
- Built prototype design and presented findings with a technical paper and a poster

Researcher: Texas Spacecraft Laboratory, University of Texas at Austin 1/12 - 8/12

- Built 2 CubeSats while on Navigation and Visual Systems, Structures, Ground Support and Integration Subsystems
- Tested satellite components, created mechanical drawings to machine structural parts, integrated components into satellite and assembled wire harnesses

mike.pieratt@gmail.com

MICHAEL (MIKE) A. PIERATT

[<https://mpieratt.github.io/>]

(830) 385-8919

Intern: Center for Space Research, University of Texas at Austin

6/11 - 8/11

- Analyzed and presented telemetry for NASA's Gravity Recovery & Climate Experiment Satellite

SKILLS

- Highly Proficient in MATLAB, Simulink, Word, Excel, Access, 3DS Max, and Windows and Linux environment
- Experienced in C/C++, Python, SCADE, Systems Tool Kit, Apache Subversion, SolidWorks, Eclipse
- Strong understanding of dynamics, orbital mechanics, control systems, estimation, and software development
- Experience developing launch vehicle, spacecraft or UAV GN&C algorithms, Kalman filtering, trajectory design
- Understanding of the operation of inertial navigation systems, star trackers, magnetometers, and GPS receivers
- Proficient in computer desktop hardware assembly, computer modeling, design, fabrication and high powered rockets
- Excellent interpersonal, communication, leadership, teamwork, and problem-solving skills; highly capable to operate in collaborative and cross-functional environment
- Quick learner, able to pick up new languages and programs quickly

ACCOMPLISHMENTS AND AWARDS

- University Honors; Spring 2015, Fall, 2014, Fall, 2013, Spring 2013, Spring 2012, Fall 2011
- Tripoli Rocketry Association: Level 1 High Powered Rocketry Certification, K-class motor
- Member, University of Texas Longhorn Rocketry Association, 2011 – 2015
- Member, University of Texas Marching, Volleyball, Basketball and Concert Bands, 2011 - Present
- NASA Johnson Space Center High School Aerospace Scholar, 2010 – 2011