

Jack A. Lightholder

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EDUCATION

Arizona State University

GPA 3.6

Bachelor of Science - Computer Science

Ira A. Fulton School of Engineering, Barrett Honors College

Consistent Dean's List Recipient – 2 years

Applicable coursework: Compiler Design, Digital Logic, C/C++ Programming, Artificial Intelligence Design

ACADEMIC EXPERIENCE

Jet Propulsion Laboratory (2016-Current)

Member of the Machine Learning and Instrument Autonomy Group. Currently supporting instrument flight software development efforts for the Near Earth Asteroid Scout (NEAScout) CubeSat mission. Software will allow onboard data processing for improved science operations. Additionally, supporting MSL operations for the engineering cameras and operational product generation subsystem (OPGS).

AOSat CubeSat Program Manager & Software Architect (2014-2016)

Student lead on the Asteroid Origins CubeSat mission proposed to launch in 2016. AOSat studies rubble pile astrophysics and interstellar material accretion. Primarily responsible for managing engineering integration and subsystem progress. Additionally, responsible for the development of CubeSat laboratory software and spacecraft operations architecture.

Dust Devils Microgravity Research (2012-2016)

Student lead of a NASA Microgravity University team selected for flight on NASA's microgravity aircraft. Managed the development, construction, funding and logistics of an astrophysics experiment studying electrical charging of interstellar dust and the impact on dust coagulation in a microgravity environment.

NASA Space Grant Intern (2013-2016)

Utilized weather balloons to fly experimental payloads to test visual and infrared imaging systems as well as communications equipment for use in future CubeSat missions currently being developed at Arizona State University.

Mars Exploration Rover Image Calibration Technician (2014-2015)

Calibration technician for the PanCam instrument on the Mars Exploration Rover. Responsible for calibration of scientific data sets. Additionally, developing data pipeline support software for image analysis and data management.

Students for the Exploration and Development of Space (SEDS) (2011-2015)

Vice chairman of the national board of directors for SEDS-USA and vice president of the local SEDS-ASU chapter. Chairman of the SEDS annual SpaceVision conference in 2013 which brought together over 350 students from around the country.

Human Oriented Robotics and Control Laboratory (2013-2014)

Student researcher studying the application of electroencephalography wave data in brain-machine interfaces. Research included developing a machine learning artificial intelligence software capable of interpreting participant brain activity and determining thoughts based on pre-recorded calibration data.