JACK ARNIS AGOLLI

75 Camelot Dr, Worcester MA 01602   774-242-1395   jaagolli@wpi.edu
Available: January 2018   https://www.linkedin.com/in/jackagolli

CAREER GOAL: Seeking a full time position to utilize my experiences as an engineer to further the advancement of human space exploration and space flight technologies.

RELEVANT EXPERIENCE

National Aeronautics and Space Administration – Goddard Space Flight Center   **Greenbelt, MD**
Summer Intern   June 2017 – August 2017
- Optomechanical design in Creo and Simulate to design a nulling coronography test bed and segmented aperture telescope in support of the LUVOIR mission and technology maturation for coronagraphs and direct imaging of Earth-like exoplanets.

Spike Aerospace, Inc.   **Boston, MA**
Aerospace Engineer   May 2016 – Present
- Worked in various areas of design in order to help create the world's first supersonic business jet. This included managing and hiring other interns, parametric CAD modeling in Unigraphics, performing trade studies and aircraft sizing, and CFD analysis in Star-CCM+.

Space, Aerial, and Nuclear Networks Division – United States Air Force Materiel Command   **Lexington, MA**
Software Engineering Intern   June 2016 – August 2016
- Directed a team of four that designed a critical C++ application on a Linux (Fedora) machine that decoded Link 16 radio messages from a German NATO exercise. I also used HTML and JavaScript to develop and test dynamic a web-based application that displayed the decoded tactical aircraft logistical information in Cesium in a web browser.

PROJECT EXPERIENCE

Directed Research   August 2017 – Present
- Trajectory analysis using Copernicus for a nanosatellite mission on a low thrust (EP) interplanetary transfer.

CubeSat Design and Analysis: Attitude Control Subsystem Testing   **Worcester, MA**
Major Qualifying Project   September 2016 – March 2017
- Worked in a team of 3 to develop an attitude determination and control subsystem (ADCS) for WPI's CubeSat, in collaboration with the NASA Goddard Space Flight Center and the Space Research Centre in Poland. Software used: STK, Matlab
- Designed and simulated attitude control policies and designed and built a near-frictionless, three degrees of freedom test bed for hardware-in-the-loop testing.

Phobos Reconnaissance Orbiter Mission   **Worcester, MA**
Senior Capstone Design Project   January 2017 – March 2017
- Prepared a preliminary design of a spacecraft to perform a high resolution imaging mission of Mars' largest moon Phobos
- All spacecraft subsystems (thermal, attitude control, power, propulsion, orbital) were designed and modeled as part of the trade study.

Investigation into Reliability: London Underground Jubilee Line   **London, England**
Interactive Qualifying Project   January 2017 – May 2017
- Worked in a team of four to provide recommendations on the future modernization of the Jubilee Line, particularly related to stopping accuracy and platform edge doors.

SKILLS AND ABILITIES

Technical Abilities: Large optical telescope design, spacecraft mission design, propulsion system design, low thrust trajectory analysis, supersonic/subsonic aircraft design, attitude control system design, robotics, rocket engine nozzle design, CAD modeling/drawing, programming, wind tunnel testing, thermodynamics, aerodynamics
Languages: C++, C, PHP, JavaScript, HTML, CSS
Software Experience: STK, Copernicus, Solidworks, NX Unigraphics, PTC Creo/Windchill, Matlab, Star-CCM+, Linux/Unix, Vim, LabVIEW, OpenVSP, XFLR5

EDUCATION

Worcester Polytechnic Institute   **Worcester, MA**
Candidate for Bachelor of Science in Aerospace Engineering;   September 2014 – December 2017
Astronautical Engineering Concentration
- *Relevant Coursework:* Calculus, Physics, Mechanics, Thermodynamics, Statics/Stress, Material Science, Atmospheric and Space Environments, Astronautics, Aerodynamics, 'Guidance, Navigation, and Communication (GNC)', Spacecraft and Aircraft Dynamics/Control, Aerospace Structures, Structural Dynamics, Incompressible and Compressible Fluids, Rocket Propulsion, Spacecraft and Mission Design
- *Academics:* **3.8/4.0 GPA**
- *Honors and Activities:* WPI Presidential Scholarship, Mary and Theodore Ellis Scholarship, WPI Dean's List, Albanian Student Association – Vice President, AIAA, WPI Soccer Club Team, WPI Water Polo Club Team

Advanced Math and Science Academy Charter School   **Marlborough, MA**
- *Academics:* **4.3/4.0 GPA, 2200 SAT I, 800 SAT II – Mathematics**   September 2010 - June 2014

ADDITIONAL INFORMATION

Interests and Hobbies: Classical guitar player (10 years), pianist (2 years), reading classic novels and reading astrophysics papers/textbooks, watching classical and sci-fi films, keeping up with space exploration news, soccer, cooking Italian food
Volunteering/Other: Eisenberg Assisted Living activities manager, Kumon Math and Reading Center (tutoring students for four years)
Spoken Languages: Albanian (fluent), Italian (proficient)