

WILLIAM CHAPIN

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Interested in pursuing a career where my passions for learning and problem solving are used to produce novel solutions. Self-motivated worker.

EXPERIENCE

08/2018 – PRESENT

Research Assistant, FIELD AND SPACE EXPERIMENTAL ROBOTICS LABORATORY (FASERLAB)

Managerial duties include: research/procurement, machine maintenance, infrastructure management. Specialized duties include Kinematics/controls design, simulation, CAD, and proposal writing.

08/2017 – 08/2018, 06/2019 – 08/2019

Robotics Researcher, NASA LANGLEY RESEARCH CENTER

Responsible for writing control software for autonomous robots pertaining to CIRAS, ASSEMBLERS, and LaRC's Autonomy Incubator. Other duties included motion capture, electronics design, and recorded data analysis. Use of ROS, Matlab, Python, C++, Processing, Simulink.

06/2016 – 08/2016

STF Researcher, NASA LANGLEY RESEARCH CENTER

Worked on control systems for UAS to allow swarm type flight patterns. Developed system for recording and emulating COTS UAS control signals.

EDUCATION

09/2018 - PRESENT

B.S. Computer Science, VIRGINIA TECH

Undergraduate transfer student in Computer Science. Relevant coursework: ME5984 Robotic manipulation and assembly. GPA 3.8. Member of Aerial Robotics and Drone Racing clubs.

05/2015 – 12/2017

B.S. Electrical Engineering, GERMANNA COMMUNITY COLLEGE

Relevant coursework: Signals and Systems, AC Circuit Analysis, Differential Equations. GPA 3.286
Member of the Engineering Club.

PUBLICATIONS

2018 – AIAA SPACE AND ASTRONAUTICS FORUM

Validation of Operations for the In-Space Assembly of a Backbone Truss for a Solar-Electric Propulsion Tug, WITH ERIK KOMENDERA, IOK WONG

2018 – RSS SPACE ROBOTICS WORKSHOP

A Collaborative Manipulation Strategy for the Assembly of Space Trusses, WITH ERIK KOMENDERA, IOK WONG

2019 – INTERNATIONAL ASTRONOMICAL CONGRESS

A Reinforcement Learning Approach for the Autonomous Assembly of In-Space Habitats and Infrastructures in Uncertain Environments, WITH DR. JOHN COOPER, JAMES NEILAN, SAMANTHA GLASSNER, DR. ERIK KOMENDERA

SKILLS

- Proficient in MATLAB/Simulink, Python, Java, Arduino. Capable in C/C++, Processing, ROS.
- Proposal and Technical Writing
- Robotic Kinematics and Dynamics.
- Rapid prototyping and system development
- Teamwork and team management
- Skilled in synthesizing mechanical, electrical, and software engineering practices.

ACTIVITIES

Hobbyist roboticist for many years. Maintains a fleet of 13 UAV systems and several walking robots. Frequent hackathon competition participant, recently making finals at HackDuke and winning at CypherHacks. Pursues cybersecurity and cryptography as a hobby; yearly DEF-CON participant.