

TIMOTHY (TJ) CHASE

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EXPERIENCE

Software Engineer - Pathways Intern

National Aeronautics and Space Administration (NASA)

📅 Summer 2018, Summer 2019 📍 Wallops Island, Virginia

- Summer 2018:
 - Worked on firmware/software design for an Internal Research and Development project called Cubesat Storage and Communications Card (C-SaCC)
 - Developed the C-SaCC flight-command set and wrote embedded software using the Salvo RTOS for a PIC microcontroller to handle spacecraft/C-SaCC command switching, FPGA interfacing, and data storage/transmission
- Summer 2019:
 - Worked on flight software for three ongoing cubesat missions for Goddard Space Flight Center (GSFC)
 - Responsible for developing numerous core Flight System (cFS) applications, as well as simulator test-beds and COSMOS ground software target configurations for those applications
 - Also responsible for various Linux kernel modifications, and slight FPGA design

Software Engineer - Intern

Jet Propulsion Laboratory (JPL)

📅 Fall 2019 📍 Pasadena, California

- Software engineering intern under JPL's Robotic Operations group, working on the Mars 2020 rover
- Working on a flight-software-in-the-loop simulation/operations tool that validates rover command sequences and predicts autonomous behavior
- Responsible for dumping and decoding state from the rovers flight software memory, and propagating it forward to seed the simulation

Data Scientist - Intern

NOVI Aerospace

📅 January 2019 – December 2019

- Responsible for aiding the NOVI data science team with various machine learning-based work for ongoing satellite mission development

RESEARCH

Lead of Flight Software

University at Buffalo Nanosatellite Laboratory

📅 July 2016 – May 2020 📍 University at Buffalo

- Responsible for software development in various areas, including driver development, system optimization, hardware and software level testing, communications, Linux firmware modification and kernel compilation, and many more
- Responsible for making design and architecture decisions for three ongoing cubesat missions
- Responsible for managing the overall progress/timeline of each flight software system and delegating tasks to accomplish this
- Also responsible for various managerial duties, including organizing meetings, holding workshops, training members of the team, and giving presentations and status updates to upper management and the Air Force Research Laboratory (AFRL)/NASA

RESEARCH CONTINUED

Blockchain Thinklab

📅 Jan 2019 – May 2019 📍 University at Buffalo

- Researcher under Dr. Bina Ramamurthy working on a variety of blockchain related projects and applications

Scalable Computing Research (SCoRe) Group

📅 Jan 2019 – Dec 2019 📍 University at Buffalo

- Researcher under Dr. Jaroslaw Zola, working on scalable Bayesian network learning and applications
- Involved with optimizing the Scalable Accelerated Bayesian Network Analytics (SABNA) framework, primarily with search space pruning while computing maximal parent sets, to then feed into the search for optimal network structure

Distributed Robotics and Networked Embedded Systems (DRONES) Lab

📅 Nov 2019 – Present 📍 University at Buffalo

- Researcher under Dr. Karthik Dantu, working on distributed visual SLAM for robotics and mobile systems
- Currently researching persistence filtering for distributed visual SLAM systems in semi-static environments

EDUCATION

Masters in Engineering Sciences - Robotics

University at Buffalo

📅 Anticipated Dec 2021 📍 Buffalo, New York

Bachelor of Science in Computer Science

University at Buffalo

📅 May 2020 📍 Buffalo, New York

Certificate in Data-Intensive Computing

University at Buffalo

📅 May 2020 📍 Buffalo, New York

HONORS & AWARDS

UB Blockchain Buildathon 2019

First Place Value Centric - Second Place Overall

📅 April 2019 📍 University at Buffalo

UB Hackathon 2018

First Place

📅 November 2018 📍 University at Buffalo