

Experience

Jacobs Technology (NASA TOSC @ Kennedy Space Center) — Software Engineer May 2019 - Present

- Responsible for development of vehicle, spacecraft simulator functionality, documentation, and testing
- Contributed to lifecycle by defending development activities to engineering board, writing requirements
- Minimized testing time and developer involvement by creating automated scripting interface for simulator
- Limited COTS tool dependency by re-engineering telemetry extraction from network packets
- Optimized telemetry ingest and modification pipeline with parallel packet processing
- Widened simulator use case space by implementing functionality to simulate launch vehicle and spacecraft during different stages of the mission timeline, from launch to lunar orbit and spacecraft recovery

National Aeronautics and Space Administration — Software Engineer Intern Sept. 2018 - May 2019

- Created models of Kennedy Space Center SwampWorks lunar excavation rover for Gazebo simulations
- Automated simulation pipeline by integrating higher-level project modules to ease testing and deployment
- Interfaced with SwampWorks and Florida Space Institute for requirements traceability and hardware integration

Lockheed Martin — Systems Engineer Intern May 2016 - Aug. 2016

- Installed and configured Advanced Jet Trainer flight simulation software and hardware
- Performed testing of Multi-Function Display functionality and generated test reports for engineering team
- Developed TCAS test plan and package including simulator resources necessary to verify TCAS performance

Education

University of Central Florida — B.Sc. Computer Science Aug. 2015 - May 2019

- Select Courses: Operating Systems, Computer Architecture, Computer Vision, Artificial Intelligence, Object Oriented Programming, Astronomy, Solar System Astronomy
- Burnett Honors College Graduate

Meikai University — Japanese Language Proficiency Test N3 Certification Aug. 2017 - Jan. 2018

- Language (Grammar, writing, speaking, and listening) and history courses taught in Japanese

Projects

More at github.com/shintoo

darwintree.app — Phylogenetic Tree Builder (React) July 2021 - Dec. 2021

- Designed and built Next.js-based webapp with interactive d3.js phylogenetic tree builder
- Implemented intuitive search component to browse and search biological taxa using iNaturalist API
- Wrote algorithm to maintain phylogenetic validity during tree construction

mpt — Flight Tracker (Python) Feb. 2021

- Built an aircraft tracker based on ADS-B data to display real time flight information over selected region

Saturn — Interpreted Programming Language (C) June 2015 - Sept. 2015

- Created an assembly-style general purpose interpreted programming language
- Verified run-time stability by preventing and eliminating all memory leaks with Valgrind

Skills

- Telemetry, Simulation, Parallel programming, Object oriented design, Web development, Embedded
- Languages: Python, Typescript, Javascript, C, CSS, HTML, Bash, Java, AVR assembly, C++, Haskell
- Tools: Git, Docker, vCenter, Valgrind, GDB, TCP, UDP, GitLab CI/CD, Makefile, Dewesoft, XTCE, SQL, GIMP
- Libraries, frameworks: React, Next.js, Arduino, NumPy, Matplotlib, SDL, PIL, OpenCV
- Operating Systems: Ubuntu, Arch Linux, Debian, Red Hat Enterprise Linux, ESXi, Windows