Jonathan D. Tan
Pasadena, CA | (626) 518-2784 | jonathantan@engineering.ucla.edu | www.jonathantan.engineering

Experience

NASA Jet Propulsion Laboratory-Pasadena, CA August 2021-Present

Lead Systems Engineer – LOTUS Project

- Managed schedule, budget, technical objectives, and a cross-functional team, providing technical and strategic leadership for two major subsystem acquisition contracts worth over $170M

Deputy Integration and Test Lead – CADRE Project

- Led the successful delivery of CADRE flight hardware to Intuitive Machines Houston, validating mechanical, electrical, ground, and flight software interfaces for an autonomous lunar rover system
- Architected, optimized, and automated the baseline functional test suite for the hardware and software of a multi-agent autonomous robotic system, reducing required test time by 75%
- Developed communication drivers, backend infrastructure, and user dashboards to interact with FPGAs for live data visualization and analysis during avionics integration and environmental tests

Software Systems Engineer – CADRE Project

- Designed, implemented, and unit tested software components for the implementation of Guidance, Navigation, and Control (GNC) sensors for a robotic system, to include vision systems and IMUs

Columbus Technologies (JPL On-site)-Pasadena, CA January 2020-August 2021

Instrument Systems Engineer – ISLAND Project

- Led a cross-functional software test team in debugging software components running on VxWorks Real-Time Operating System (RTOS), automating regression testing and streamlining bug finding
- Delivered Electrical Ground Support Equipment (EGSE) for hardware-in-the-loop validation of instrument hardware and software, including image sensor arrays in visible and infrared wavelengths

Booz Allen Hamilton-El Segundo, CA November 2016-January 2020

Cybersecurity Technologist (Strategic Innovation Group)

- Delivered hardware-in-the-loop cyber-physical testbeds, training, and software for a successful live field demo of offensive cybersecurity capabilities, winning a $1.5M contract and new clients
- Led the development of hackathons for the U.S. Navy HACKtheMACHINE series in Boston, Seattle, and New York, successfully guiding hundreds of participants through technical challenges
- Approved salary actions, managed performance, and mentored five employees as career manager

United States Marine Corps June 2014-August 2016

First Lieutenant

- Led large, cross-functional, diverse teams in the accomplishment of complex objectives with limited resources, tight schedules, and challenging environments.

Education

M.S. Electrical and Computer Engineering - *Johns Hopkins University* Expected 2026
M.S. Engineering (Cybersecurity) - *University of California, Los Angeles* Awarded 2020
B.S. Aerospace Engineering - *University of California, Los Angeles* Awarded 2014

Certifications and Licenses

- Certified Information Systems Security Professional (CISSP)
- FAA Part 107 Unmanned Aircraft System Remote Pilot

Skills and Abilities

Software and Analysis: Python, Ruby, C++, MATLAB & Simulink, Shell, Git, Docker, ROS/ROS2
Hardware: Embedded Systems, Microcontrollers, Electrical Test Equipment, Harnessing, PLCs
Robotics: Kinematics, Sensor Fusion, Computer Vision, Perception, Image Processing, Radiometry
Networking: CAN Bus, Wireshark, netcat, socat, RS232, RS422, MIL-STD-1553, SPI, TCP/IP
Aerospace: Astronautics, Remote Sensing, PNT (Position, Navigation, & Timing), Space Hardware
Databases, Visualization, Systems Administration: Grafana, InfluxDB, SQLite, Unix Command Line