

CARLYN LEE

626-419-6597 carlyn.lee@gmail.com

Accomplished Software Engineer specializing in architecting scalable solutions, pioneering system reproducibility strategies, and innovating advanced visualization tools for high-performance computing applications. Experienced in collaboration with interdisciplinary teams, designing complex algorithms, and optimizing computing systems with a variety of tools: *C/C++*, *Python*, *Java*, *MATLAB*, *Visual Basic*

EXPERIENCE

NASA Jet Propulsion Laboratory, California Institute of Technology Aug 2012 - Nov 2024
Applications Software Engineer *Pasadena, CA*

- **Tools Development:** Built deep space mission development telecom simulation and modeling tools. Led and mentored remote interns contributing to mission-critical systems. Automated operations to enable three Deep Space Network ground antenna sites to manage the entire network during day shifts instead of operating 24/7.
- **Mission Operations:** As the Perseverance Rover telecom chair, responsible for the health and status of rover communications using data down-linked from Mars. Delivered tools reducing rover operation response-time from several hours to 20 minutes, exceeding requirements.
- **Supercomputing:** Developed Lunar terrain mask algorithms for Shaheen II supercomputer, enabling 10m-resolution link coverage maps for lunar landing sites. Parallelized simulations for Deep Space Optical Communications, achieving bit error rate of 10e-8, a 1000x improvement over previous state-of-the-art, and enabling mission performance for VIPER.
- **Fieldwork:** Responsible for reliable multi-agent data transfer processes occurring at the transport layer. Conducted field testing of autonomous systems in maritime and subterranean environments, contributing to 1st place in DARPA's Urban Circuit Challenge and the deployment of the largest ever fleet of autonomous maritime vehicles.
- **Verification & Validation:** Responsible for developing automated tools and test procedures for avionics flight software, and executing tests on flight hardware.

EXTRACURRICULAR, VOLUNTEER & PROFESSIONAL AFFILIATIONS

2019 - Present Supporting the Global Network Advancement (GNA-G) Data Intensive Sciences Working Group to enable high-throughput data transfers for Caltech, including a 10 Tbps link demonstration at the Nov 2024 Supercomputing Conference.

2018 - Present SoCal Linux Expo Volunteer, deploying on-site network infrastructure and AV systems, repurposing legacy hardware to deliver free, open-source solutions for thousands of attendees and millions of Linux users.

2014 - Present Interplanetary Small Satellite Conference committee member, managing budgets, website development, logistics, and vendor collaboration to host 100+ industry leaders advancing interplanetary satellite capabilities.

EDUCATION

California State University, Fullerton

M.S. Computer Science

B.S. Computer Science, Minor in Mathematics

August 2012

July 2011