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 August 2012 - November 2024
Applications Software Engineer *Pasadena, CA*

- **Verification & Validation:** Personally responsible for developing automated tools and test procedures for avionics flight software, and executing tests on flight hardware.
- **Mission Operations:** As the Perseverance Rover telecom chair, responsible for the health and status of rover communications using data downlinked from Mars. Personally developed tools to reduce 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 off 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.
- **Tools Development:** Built deep space mission development telecom simulation and modeling tools. Personally responsible for developing automation enabling three Deep Space Network ground antenna sites to manage the entire network during day shifts instead of operating 247.

EXTRACURRICULAR, VOLUNTEER & PROFESSIONAL AFFILIATIONS

2019 - Present Supporting the Global Network Advancement (GNA-G) Data Intensive Sciences working group
2018 - Present As a SoCal Linux Expo Volunteer helped set up infrastructure for on-site expo network and AV live stream recording for presentations
2014 - Present Interplanetary Small Satellite Conference Committee Member
2016 - 2022 Caltech Alpine Club Website Administrator.
2019 Member of Duarte Ad Hoc Finance Advisory Committee, appointed by Duarte City Council.
2010 - 2012 Vice-President of Association for Computing Machinery, CSU Fullerton.

EDUCATION

California State University, Fullerton
M.S. Computer Science *August 2012*
B.S. Computer Science, Minor in Mathematics *July 2011*