

# CARLYN LEE

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## EXPERIENCE

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### Jet Propulsion Laboratory, California Institute of Technology

*Applications Software Engineer*

August 2012 - present

*Pasadena, CA*

- Full web stack development for deep space telecom planning tools. Spacecraft, planetary, camera-matrix, and events analysis using C/C++, link analysis models using Java & nodejs. UX development for scheduling telecom links with Liferay portlet & Drupal development, data visualization with D3 & WebGL.
- Python implementation of Markov model for estimating bandwidth requirements in Deep Space Network simulations. Modeling of communications traffic flow for human exploration of Mars & Moon.
- Using AWS Redshift implemented data warehouse and plots from signals recorded on open loop receiver for Cassini Spacecraft during 2004-2015. Investigation of atmospheric losses for Ka-band links.

### Spectral Imaging Laboratory

*Consultant*

November 2011 - present

*Pasadena, CA*

- Post-processing algorithm to correct for hardware inconsistencies in prototype camera.
- Application of super resolution algorithms to ray-traced simulations of images captured with artificial compound eyes. Using Matlab and openCV, improved resolution of images degraded with noise models.
- Mathematical modeling of visual acuity for multiple apertures on curved surface. Implementation of neural networks to improve angular resolution of a point light source.

### Golfstream

*Consultant*

September 2015 - March 2016

*Los Angeles, CA*

- REST Web API for gameplay, user accounts, & game statistics for virtual golf simulator.
- Implementation of server infrastructure, media delivery, & user interfaces. Facilitate testing & game demonstrations to improve user experience.

### California State University, Fullerton

*Research Assistant & Intern*

December 2009 - August 2012

*Fullerton, CA*

- Created framework to improve run-time efficiency & accuracy of cancer detection using eigen decomposition of DNA microarray data with large feature set.
- Binding site discovery in heat-shock proteins with C/C++ implementation of self-organizing maps.
- Delivered scheduling tool for library resources using .NET framework. C# student web application, VB.NET admin configuration tool. Database design & implementation using SQL Server & stored procedures.

## VOLUNTEER & PROFESSIONAL AFFILIATIONS

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**2015 - present** Interplanetary Small Satellite Conference Organizing Committee.

**2010 - 2012** Vice-President of Association for Computing Machinery, CSU Fullerton.

## AWARDS & HONORS

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**2015** 3rd place Topcoder Open Finals API Hackathon.

**2013** 1st place Biotech Track, 15th Annual IEEE Biomedical Engineering Biotech Contest.

**2012** Anita Borg scholarship, CSU Program for Education & Research in Biotechnology Student Travel Grant, Orange County Engineering Council Outstanding Engineering Student Award.

## EDUCATION

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### California State University, Fullerton

M.S. in Computer Science

*August 2012*

B.S. in Computer Science, Minor in Mathematics

*July 2011*