CARLYN LEE

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EXPERIENCE

Jet Propulsion Laboratory, California Institute of Technology August 2012 - present
Applications Software Engineer *Pasadena, CA*

- Developed Tableau Web Data Connectors and dashboards for exploring aggregated data from anomolies flagged by rules-engine.
- Using Matlab, determined optimal decisional passes for MSL Operations based on data volumes and pass schedules reported in TOAST output for Mars obiters. Developed HTML5 and javascript framework to generate and display Earth ground team schedules corresponding with decisional passes.
- Implemented a framework using nodejs and mongodb for Link Complexity and Maintenance software to find events or trends from Sequence of Events file for estimating a link complexity profile.
- 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.
- Radio science operator for Cassini Spacecraft. Investigation of atmospheric losses for 32GHz radio communications recorded on Deep Space Network open & closed loop receivers. Using AWS Redshift implemented data warehouse and plots for radio science data from Cassini Spacecraft during 2004-2015.

Spectral Imaging Laboratory November 2011 - present
Consultant *Pasadena, CA*

- Post-processing algorithm to correct for manufacturing inconsistencies in prototype of artificial compound eye.
- 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.
- Modeling of visual acuity for multiple apertures on curved surface. Implementation of neural networks to improve angular resolution of a point light source.

California State University, Fullerton December 2009 - August 2012
Research Assistant & Intern *Fullerton, CA*

- Designed and implemented 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.

EXTRACURRICULAR, VOLUNTEER & PROFESSIONAL AFFILIATIONS

Interplanetary Small Satellite Conference Organizing Committee; Caltech Alpine Club Website Administrator; Private Pilot-ASEL +280hrs in PA28, C152, C172; Technician Class Amateur Radio Operator
2010 - 2012 Vice-President of Association for Computing Machinery, CSU Fullerton.

AWARDS & HONORS

2013 1st place Biotech Track, 15th Annual IEEE Biomedical Engineering Biotech Contest.
2012 Anita Borg Scholarship, CSUPERB Travel Grant, Orange County Outstanding Engineering Student Award.

EDUCATION

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