

victorherrera

opto-mechanics system designer, data analyst

contact

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🌐 [/vmherrera](https://www.github.com/vmherrera)

languages

english & spanish fluency

programming

Python (scikit-learn,
numpy, scipy, pandas)
R, SQL, C, C++
Ruby, Javascript,
Hadoop (Hive,
MapReduce)
ZPL, \LaTeX , Excel/VBA
📄 HTML5, 🎨 CSS3

software

GNU Octave/MATLAB
Mathematica, **git**
KiCAD, AutoCAD
ZEMAX, OSLO
LabVIEW, IGOR Pro
🖱 Office Suite
Adobe Creative Suite

core competencies

Optical Engineering
Control Engineering
Machine Learning

loose competencies

Electrical Engineering
Systems Engineering
Software Engineering
UI/UX Design

education

June–2014

Bachelor of Science

California State Polytechnic University, Pomona

Department of Physics and Astronomy

- GPA: 3.6 (Physics) 3.9 (Senior Year) 3.36 (Cumulative)
- Relevant coursework:
 - Applied Optics
 - Electronics (Circuit modeling with diodes, transistors, and op-amps)
 - Solid State Physics

experience

2016–Present

C. R. LAURENCE CO., INC.

Los Angeles, California

Data Analyst, Special Projects Analyst, Business Development, Full Stack Developer
Development of realtime web applications for quantitative data analysis and visualization of complex datasets. Head of development of statistical and machine-learning models and feature extraction systems. Development of Excel/VBA and Python REST-API models and dashboards for internal use in evaluating employee performance, alleviating staff attrition, and qualifying/classifying leads in the sales pipeline in the business-to-business market environment.

2013–2015

SPECTOCCULAR LABS, LLC

Pomona, California

Optomechanics/Optical Design Contractor

ZEMAX modeling and ZPL script writing that facilitated distortion analysis of simple and complex optical trains. Authored ZPL macros intended to automate raytracing under various considerations. Developed internal tools for embedded software modeling and analysis. Developed non-linear regression models (Gauss-Newton, Levenberg-Marquardt) and utilized non-linear optimization techniques (Nelder-Mead simplex) in error processing in a feedback control system. Developed discrete and stochastic reflection models for varied optical fiber assemblies. Developed visual demo tools for hardware prototype.

2013–2014

SALIK RESEARCH GROUP

Pomona, California

Laboratory Technician

Research concerned with developing optical sensors that can be used to detect very small temperature, strain, and refractive index changes. Employed in-house tapering methods of standard optical communication fibers. Developed comprehensive tests to assure sensor sensitivity using an optical spectrum analyzer and broadband source.

awards

2012–2014

President's Honor List

School of Science, California State Polytechnic University, Pomona

2013-2014 Academic Year, 2012-2013 Academic Year

2012–2014

Dean's Honor List

School of Science, California State Polytechnic University, Pomona

Spring Quarter 2014, Winter Quarter 2014, Fall Quarter 2013, Spring Quarter 2013, Winter Quarter 2013, Fall Quarter 2012, Fall Quarter 2011, Spring Quarter 2011, Spring Quarter 2010