

JOHN LEUNG

john@johnleung.com
johnleung.com
github

SOFTWARE ENGINEER, INNOVATOR, ENTREPRENEUR

Passion

For coming up with simple innovative user interface designs and quality software solutions to solve user's needs

Skills

Javascript Stack

Nodejs: Express, Feathers
App: React, Nextjs, Vue
Vis: d3, Vega-lite
Build: Gulp, Rollup, Webpack
ORM: Knex, Mongoose
Web: CSS, SVG, Canvas
Test: TestCafe, Tap, Jest
ML/NN: WebDNN, Numjs

Python, Database

Python:
Flask, Django, Pylons, Jinja2
Scrapy, Fabric Deployment
TensorFlow, Numpy, OpenCV
Database:
MySQL, Postgres, Mongo

AI Interests

Machine Learning
Deep Neural Network
Reinforcement Learning
Evolutionary Neural Network
Natural Language Processing
Robotics

Innovations

Games.ai

A web application to play against strong AI games.

The AI engine is created by studying DeepMind's **AlphaZero** research paper and implement it in Javascript.

Applied the AI engine to the game of Othello / Reversi.

Data Explorer

Creator of Patent Awarded Mind Map tool to help MetricStream customers understand and explore their data and relationships.

It was the **highlight** of the 2016 GRC Summit.

Photo Album

Created software to converts digital images to the undocumented format for the RCA e-book device.

Loading the file enables it to function like a digital photo album, giving it a new life and functionality it never had.

Experience

CancerLinQ

2018 - Present

Sr. Software Engineer

Created and maintained the CQL Measure Execution Engine and Testing Framework for it.

Intergrated ThoughtSpot and Looker into our application.

Helped create UI and API for Measures and QCDR points calculation & submission and other parts of the application.

Architect our TestCafe UI Test suite to be configurable and runnable from a web browser.

Provide coding guidance and high quality code reviews.

Conduct candidate phone screens.

MetricStream

2015-2017

Sr. Tech Lead

Designed and built **Instant GRC** - A web application to provision and manage MetricStream's application instances on the cloud.

Designed and built **Data Explorer** - A Mind Map Exploration Tool to help navigate user's data and relationships.

Blogs <i>Principal</i>	2014
Maintained and ran various Wordpress and static sites.	
<hr/>	
LearnStreet <i>Lead Engineer</i>	2013
Designed and built <i>Livedoc</i> - A new interactive document-like interface for online coding lessons.	
Designed and lead team to build the Teacher and Student Dashboard.	
<hr/>	
CK12 <i>Software Consultant</i>	2012
Designed and built CK12's student landing page - A dashboard to view their learning progress, results, and up-coming lessons.	
Designed and built CK12's system admin application.	
<hr/>	
Eventkite <i>Principal</i>	2011
Created an event search and listing web application.	
<hr/>	
Nixle <i>Senior Software Engineer</i>	2008-2010
Built Nixle's geographical based message sending web application platform from only wireframes.	
Designed and built the hierarchical targeted group communications system used by the Pittsburgh Police Department at the 2009 G-20 Summit.	
<hr/>	
Software Consultant	2007-2008
Implemented Times Series Technical Analysis algorithms for stock trading and simulation based on historical data.	
<hr/>	
Togoware <i>Founder, Software Architect</i>	2005-2006
Reverse engineered the undocumented RCA e-book device file format and created tool to convert images for it. Ouput includes Thumbnail indexes for ease of use.	
<hr/>	
Alcatel USA <i>Senior Electrical and Software Engineer</i>	1998-2002
Designed company's core FPGA Chip used in its switch, enabling DSL services across the world.	
Built the new switch firmware powering Alcatel's new generation of switches.	
<hr/>	
Logic Plus <i>Software Consultant</i>	1997
Designed the backup telemetry system for a government blimp project. System sends altimetry and heading information to a ground-based handheld device via calculations from blimp's sensors.	

Projects, Interests

Programming Languages

Like using Crystal for its speed and syntax. Swift and V are on my radar.
For JS alternative, typescript seems best. Tried F#, ReasonML, and Dart via [solving](#) Advent of Code.

Tech Talks

Topics: Data Visualization, Cross-Platform Development, Languages and Ecosystems

Self Driving Car Nanodegree

Term 1 Completion

Simple Physics Engine

A simple 2D Physics Engine in Javascript without external libraries or plugins, runnable in all web browsers.

Digital Image Processing

Image Binarization, Compression, Segmentation, Transforms, and Image Orientation Detection algorithms Implementations.

Book Reading Machine

Created a portable webcam with lense and lighting setup and software to join OCR outputs of small sections of text from VGA (1997) webcam and feed it to a text-to-speech software to read the document out loud. A trivial app in the world of smartphones, but a portable text reader did not exist at the time and non-portable ones cost thousands of dollars and requires a full size scanner.

Autonomous Robot

Built an autonomous ball-picking and path finding robot for the annual IEEE Robo-Rodentia Competition.

Education

California State Polytechnic University, Pomona, CA

2002-2004

M.S. Computer Science
(near completion)

Cal Poly State University, San Luis Obispo, CA

1992-1997

B.S. Computer Engineering
