

# Richard Ling

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Data Scientist with 5 years of experience and Masters Degree in Mechanical Engineering.

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## Skills:

**Programming Language:** Python, SQL, Scala, MATLAB

**Analytical Tools:** Pandas, Numpy, Sklearn, Tensorflow, Statsmodel, Matplotlib, Seaborn, Pyplot, Spark, Simulink, MS Office

**Design Software:** Solidworks, Creo2.0, AutoDesk Inventor

**Simulation tools:** PTC Creo Simulate, Solidworks Simulation, AutoDesk Inventor

**Enterprise Resource Planning Software:** Exact Macola 10, SAP, Oracle, Syteline,

**Spoken/Written Languages:** Cantonese and Mandarin.

## Projects:

### **Capstone Project: Car Classification with Imagery (Auto-enVision)**

- Built a car classification model into a web app for car buyers and sellers to mobilize their car research on the go with a one-step process.
- Built a web scraper tool to gather images for Jeep Renegade, Jaguar F-Type, BMW i8 and BMW M4.
- Custom built a convolutional neural network model and a model with Keras pretrained VGG16 on 10,000 images to classify 4 car models.
- The models were capable with accuracy of 95% and 98% on the custom and pretrained model, respectively.

### **Client Project: Flood Detection with Imagery (Flood Bank)**

- In a group of 3, developed a binary classification model and flood detection with a pretrained model to filter flooded images and then approximate its flood depth.
- Used Labellmg for image labeling and Roboflow's Yolo-v3 Pytorch pretrained model for object detection.
- Achieved accuracy of about 70% with 1000 images and demonstrated the capabilities of the concept.
- The leading group who took on this project given the requirements were beyond our knowledge at the time.

## Experiences:

### **Ametek Surface Vision Inc.**

*Mechanical Engineer*

Hayward, CA 94544  
(August 2015 – March 2020)

- Successfully completed many orders over \$100K on schedule without shortages and production delays by predicting usage with a data tracker I created and assigned tasks to the production floor to begin assembly in advance.
- Optimized multiple assembly BOM by 30% and reduced material cost by 50% by analyzing the BOM data, usage data and working with assembler to identify part redundancy and unnecessary parts.
- Reduced post-delivery order issues from customers by more than 50% in 2019 by managing production flow, working closely with customers, buyers, accountants and vendors.

### **Gillig LLC.**

*Mechanical Engineer*

Hayward, CA 94545  
(October 2014 - June 2015)

- Successfully implemented a safety cover from concept into production to prevent harnesses from tangling into the driver's foot area by working with drivers to understand and analyze their movements.
- Executed a customer order of over 10 buses for a worth over \$500K+ by working with the customer to custom fit a special camera to the exterior wheel panel.

### **NASA Ames Research Center**

*Mechanical Design Engineer*

Mountain View, CA 94035  
(June 2013 - September 2014)

- Researched and developed calibration mounts for helicopters swashplate assembly for wind-tunnel testing.
- Designed hardware capable for wind-tunnel testing by doing FEA simulation against the maximum vibration I estimated by analyzing the wind-tunnel dataset.
- Collaborated with team members and machinists to improve, optimize and reduce the cost of the calibration mount.

## Education/Certifications:

General Assembly

San Jose State University

University Of California, Davis

Engineering-In Training Certified: Mechanical (#139866)

**Data Science Immersive Program**

**M.S in Mechanical Engineering**

**B.S in Mechanical Engineering**

(March 2020 - June 2020)

GPA 3.7/4.0 (May 2013)

GPA 3.0/4.0 (June 2011)

