

# Rory Hartong-Redden

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## Summary

machine learning, data science, physics, software development

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## Skills Summary

**Languages:** Python, MATLAB

**Dev Tools:** Git, Heroku, PyCharm, AWS

**Data:** SQL, PostgreSQL, HDF5

**ML:** Neural Networks, Decision Trees

**Python Stack:** Conda, Keras, matplotlib, NumPy, Pandas, PyTables, scikit-learn, SQLAlchemy

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## Work Experience

- **Startup.ML** San Francisco, CA  
*Machine Learning Fellow* Dec 2015–Apr 2016
    - Developed a production FinTech data pipeline for currency trading using industry-standard machine learning methods
    - Investigating how Reinforcement Learning can be leveraged to revolutionize algorithmic trading
  - **Harold Washington College** Chicago, IL  
*Adjunct Faculty* Feb 2015–May 2015
    - Incorporated the latest discoveries in astronomy and the new *Cosmos* into my lessons
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## Projects

- **Kaggle** San Francisco, CA  
*Home* May 2015–Present
    - Coded a deep residual convolution network in Keras/TensorFlow for multi-label classification for the Yelp Kaggle competition [yelp\_kaggle repository]
  - **Master's Thesis: Krechetnikov Fluid Physics Lab** Santa Barbara, CA  
*Research Assistant* Dec 2013–Jun 2014
    - Incorporated a recent image processing technique for cheap 3D high speed mm-resolution measurement over a surface area of  $225\text{ cm}^2$  [profilometry repository]
  - **Transient Optical Sky Survey** Santa Barbara, CA  
*Lubin Lab, Dept. of Physics* Sep 2008–Jun 2009
    - Collaborated on the MATLAB/C data pipeline that processed 1GB of images per night
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## Education

- **University of California, Santa Barbara** Santa Barbara, CA  
*MS Mechanical Engineering* Dec 2014
  - Thesis: *Experimental apparatus for the study of Faraday waves on time-varying domains*
- **Northwestern University** Evanston, IL  
*Graduate study: PhD Physics* Sept 2010–Mar 2012
- **University of California, Santa Barbara** Santa Barbara, CA  
*BS Physics & BS Mechanical Engineering* June 2010
  - Thesis: *Experimental and theoretical study of pattern identification in physical systems with circular symmetry*
  - Graduated with honor in both degrees, GPA: 3.7/4.0
  - Dean's List 11/12 quarters