Rory Hartong-Redden

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Summary

research scientist, machine learning aka deep learning aka AI, python developer, data scientist, physicist

Skills Summary

Languages: Python, R
Data: SQL, Postgres, HDF5
Python Tools: Conda, Keras, matplotlib, NumPy, OpenCV, Pandas, scikit-learn, SQLAlchemy

ML: Neural Networks, Gradient Boosted Machines
Dev: Git, Heroku, PyCharm, AWS

Work Experience

- **Allstate** — Menlo Park, CA
  Lead Research Analyst — *Jul 2015–Present*
  - Working on a secret project (to be published) in the autonomous vehicle and safety space

- **Startup.ML** — San Francisco, CA
  Machine Learning Fellow — *Dec 2015–Apr 2016*
  - Developed a FinTech data pipeline for algorithmic currency trading using machine learning
  - Lead the integration of an open-source Python backtesting and trading platform
  - Research in Reinforcement Learning for autonomous trading

- **Harold Washington College** — Chicago, IL
  Adjunct Faculty — *Feb 2015–May 2015*
  - Presented complex concepts in Astronomy at the level of the general public

Projects

- **Master's Thesis** — UC Santa Barbara
  Krechetnikov Fluid Physics Lab — *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]

- **Bachelor's Thesis: Drop Splash Experiment** — Santa Barbara, CA
  Krechetnikov Fluid Physics Lab, Dept. of Mechanical Engineering — *Jul 2009–Oct 2010*
  - Published a peer-reviewed article[1] on the experimental and theoretical advances I developed that may have solved a 100-year puzzle in fluid dynamics

- **Transient Optical Sky Survey** — UC Santa Barbara
  Lubin Lab, Dept. of Physics — *Sep 2008–Jun 2009*
  - Image processing with a Matlab/C data pipeline that analyzed 1GB of images taken each night

Education

- **University of California, Santa Barbara** — Santa Barbara, CA
  MS Mechanical Engineering — *Dec 2014*
- **Northwestern University** — Evanston, IL
  PhD Physics Candidate — *Sept 2010–Mar 2012*
- **University of California, Santa Barbara** — Santa Barbara, CA
  BS Physics & BS Mechanical Engineering — *June 2010*
  - Graduated with honor in both degrees, Dean's list 11/12 quarters, GPA: 3.7/4.0
  - Member: Tau Beta Pi engineering honor society

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[1] Hartong–Redden, R. & Krechetnikov, R. *Pattern identification in systems S(1) symmetry.* Phys. Rev. E. 2011.