

Dean Shaff

dean-shaff.github.io

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Education

New York University Abu Dhabi

May 2016

B.S. Physics, Summa Cum Laude

Minor in Applied Mathematics

Overall GPA: 3.876

Research Experience

Undergraduate Thesis Project

Fall 2015 - Spring 2016

Dr. Mohamed Lotfi Benabderrahmane

Abu Dhabi, UAE

- Increased signal efficiency in XENON100 dark matter experiment using novel waveform based approach.
- Applied supervised machine learning algorithms, Boosted Decision Tree and Multilayer Perceptron.

Research Assistant

Summer 2014 - Present

Joseph Gelfand

New York City, NY

- Tested a model that describes the spectral and dynamical properties of pulsar wind nebulae.
- Developed a series of Python scripts to implement a Markov Chain monte carlo to establish best fit parameter distributions for Prof. Gelfand's model.

Work Experience

New York University

Spring 2016 - Present

Research Assistant

New York City, NY

- Improving Python hardware APIs for Tidbinbilla 70m radio antenna.
- Collaborating with researchers at Harvard and Jet Propulsion Laboratory.
- Using APIs to interface with GUI application written in PyQt.

Feelix Co., Manama, Bahrain

Spring 2016

Software Engineer

Abu Dhabi, UAE

- Designed a Java control API for proprietary hardware setup.

NOW Bikes and Fitness

Summer 2011 and Summer 2012

Junior Bike Mechanic

St. Paul, MN

- Worked on high end road and mountain bikes in apprenticeship environment.
- Interfaced with customers in order to diagnose and fix issues with bikes.

Additional Programming Experience

Theano RNN

Summer 2016 - Present

- Implementing a Long Short Term Memory Recurrent Neural Network (RNN) using Theano, a Python library for making artificial neural networks.
- Extracting haikus from text generated by RNN.

Arduino Projects

Fall 2015 - May 2016

- Created interface between Xbox kinect and e-textile vibrating glove in order to simulate experience of inverse square forces.

Personal Experience

Bike Trip across USA

Summer 2015

- Rode bicycle, unsupported, from San Francisco, CA to Yorktown, VA.
- Successfully raised money with internet crowdfunding campaign.

Study Abroad

August 2009 - June 2010

- Lived with Portuguese host family and attended Portuguese high school for entirety of academic year.
- Learned to speak, write and read European Portuguese.

Technical Strengths

Computer Languages

Python, Lua, Java, C++, Arduino, Javascript, Processing

Markup Languages

L^AT_EX, HTML

Modules

NumPy, SciPy, Theano, Torch, Matplotlib, Flask, PyQT, NLTK

Scientific Research

Applications of Bayesian statistics to model fitting

Supervised machine learning for binary classification tasks

Languages

Fluent in Portuguese, Conversational in Spanish