Nathan P Harada

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EXPERIENCE

University of Michigan Computer Science Dept. — Ann Arbor, MI
Graduate Student Research Assistant — August 2014 - May 2016

- Investigate new computational methods for predicting cardiac complications and morbidities.
- Develop data pipelines and apply machine learning techniques to segregate patients based on predicted postoperative atrial fibrillation risk.
- Create software to develop and validate deep learning models applied to physiological data.

iZotope, Inc. — Cambridge, MA
Digital Signal Processing Intern — Summer 2013

- Researched time and spectral pitch detection algorithms for audio pitch correction software.
- Implemented and evaluated pitch algorithm candidates and realized 10% improvement from current method, deployed in commercial software.
- Developed analysis and visualization frameworks for future algorithm improvements.

Digital Design Corporation — Arlington Heights, IL
Software Intern — Summer 2008/09/10/11/12

- Designed and programmed commercial intercom control software suite.
- Developed test equipment, firmware, and sensors for intercoms with other hardware engineers.
- Researched and designed an active noise canceling system for industrial blowers with a cross-functional team.
- Developed test applications for commercial intercom systems in .NET and Python.

EDUCATION

Masters of Science in Computer Science
University of Michigan, Ann Arbor, MI
Graduated April 2016 (GPA: 3.81/4.00)

Bachelors of Science in Electrical Engineering
Tufts University, Medford, MA
Eta Kappa Nu officer, Dean's list each term
Awarded Harry Poole Burden Prize in Electrical Engineering
Graduated Magna Cum Laude, May 2014 (GPA: 3.73/4.00)

PROJECTS

Mri: Monitor and validate deep learning models. Watch your deep learning models train via Node.js web dashboard. Use the Python client or Caffe wrapper to train and validate models.

Seed Hydroponics: Intelligent, learning hydroponics system to grow home produce indoors. Provide feedback on your plant's health to the Django server and the Arduino based hardware automatically adjusts growing parameters.

imPact Remix: iOS music app lets you draw drum kits and play your creation. Draw drum pads and iMpact will apply DSP effects based on the shape and size of the pad.

SKILLS

Software: Linux, Windows, SciPy/NumPy/Sklearn, Caffe, Theano, Keras, Flask
Languages: Python, C, C++, MATLAB, C#, Clojure, Haskell, Assembly
Skills: Machine Learning, Deep Learning, Signal Processing, Microprocessors, Hardware

PUBLICATIONS

Harada N, Saeed M, Baveja S, Syed Z. Evaluating the Utility of a Multi-factorial Computational Model and Simplified Multi-factorial Risk Score to Predict Postoperative Atrial Fibrillation Following Cardiothoracic Surgery, American Heart Association (AHA) Scientific Sessions, 2015.