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RICHARD Z. SHEN

https://github.com/Souloist

EDUCATION

New York, NY **New York University** **Sep 2014 – Dec 2016**

M.S. in *Electrical Engineering*

- Areas of Specialization: Signal Processing, Machine Learning
- Graduate Coursework: Data Structures and Algorithms, Probability and Stochastic Processes, Matrix theory
- Relevant Projects: ECG Signal Recovery, Keyboard Visualizer, Audio Effect Implementations

New Brunswick, NJ **Rutgers University** **Sep 2010 – May 2014**

B.S. in *Biomedical Engineering*, Minors: Mathematics/Psychology

- Undergraduate Coursework: Probability theory, Linear Algebra, Tissue Engineering, Drug Delivery , Kinetics and Thermodynamics, Transport Phenomena

PROFESSIONAL AND RESEARCH EXPERIENCE

Software Engineer **Truveris** **Aug 2016 – Current**

- Back-end engineer developing COMP, coupon optimization and marketing program and OneRx
- Building RESTful APIs, infrastructure, and web applications
- On-boarded new front-end engineers on front-end stack: React, Flux, Babel, Webpack, Gulp
- Technologies: Javascript, React, Python, Pyramid, Flask, SQLAlchemy, PostgreSQL

Software Engineering Intern **Truveris** **May 2016 – Aug 2016**

- Developed features for the OneRx pharmacy price comparison web app using React.js, and Flux
- Implemented testing infrastructure for React applications with Karma, Jasmine, Enzyme, and PhantomJS
- Trained classifier with prescription data using convolutional neural network and TensorFlow

Engineering Mentor **Codecademy** **Feb 2016 – Sept 2016**

- Taught Python, Java, JavaScript, SQL, React and version control with Git
- Conducted code reviews with new students and aided in learning programming fundamentals.

Crowd Researcher **Stanford University** **Jan 2016 – April 2016**

Stanford Crowd Research Collective

- Collaborated with Michael Bernstein to add features to Daemo, an online crowdsourcing marketplace
- Technologies: Angular.js, Django. PostgreSQL

Teaching Assistant **New York University** **Sep 2015 – Dec 2015**

- Course: EL 6303 Probability and Stochastic Processes

PROJECTS

ECG Signal Recovery (MATLAB)

- Recovered ECG signal from noisy, incomplete data using least squares deconvolution and interpolation
- Implemented deconvolution iteratively using Landweber algorithm

Fun-thesizer (JavaScript, HTML5/CSS3)

- Keyboard visualizer using the Web Audio API that can play/draw sounds with varying audio filters applied
- Integrated tuna.js library to apply filters to input signal

Audio Effect Implementations (Python)

- Implemented various effects (AM modulation, reverb, distortion) in python using the PyAudio library

Non-invasive Hypertension Monitor (MATLAB, Arduino)

- Utilizes a pressure transducer to detect the pulse pressure and determine arterial compliance
- Filtered signal using customized Butterworth filter to eliminate noise within a frequency range

LANGUAGES AND TECHNOLOGIES

Programming Languages: Python, JavaScript, Java, MATLAB, SQL
Web Technologies: React.js/Flux, Webpack, Babel, Gulp, Flask, Pyramid, SQLAlchemy
Software/Other: Mecurial, Git, Bash, Linux (Ubuntu), Vim, PostgreSQL, Jupyter