Daniel J. Clark

606 Madison St · Apt 2 · Hoboken, NJ 07030 · (603)-252-0848 · danieljclark87@gmail.com
http://linkedin.com/in/danieljclark87

Academic

Columbia University, School of Engineering and Applied Science — New York, NY
MS in Electrical Engineering, GPA: 3.83/4.0 — Aug 2012-Feb 2014
Courses: Advanced DSP, Biomedical Imaging, Computational Neuroscience, Convex Optimization, Detection and Estimation Theory, Machine Learning, Risk Mgmt Financial System and Crisis, Speech Recognition

Villanova University, College of Engineering — Villanova, PA
BS in Electrical Engineering, GPA: 3.48/4.0 — Aug 2005-May 2009
Courses: Biomedical Signal Processing, Communication Electronics, Digial Signal Processing, Linear Integrated Circuits

Experience

Child Mind Institute — New York, NY
Research Engineer — Jan 2014-Present

- Work as one of the primary developers of an open-source, Python-based neuroimaging analysis software package called C-PAC (Configurable-Pipeline for the Analysis of Connectomes)
- Design and implement algorithms to extract relevant scientific insight from behvioral and neuroimaging datasets using modern approaches in machine learning, signal processing, graph theory, and statistics
- Optimize computing infrastuctures on cloud-based platforms (e.g. Amazon Web Services) centered around intensive data mining and database interaction

Columbia University, Bionet Lab — New York, NY
Research Assistant — Spring 2013, Fall 2013

- Studied how tensor-based high level mathematical functions can be used to replicate neural encoding
- Focused on the self-organizing properties of neural networks in the form of systems of topographic maps
- Investigated the theory and implementation of spatiotemporal filtering, image processing, stimulus encoding and decoding, influence of feedback, and adaptive gain control

Air Force Research Laboratories — Wright-Patterson AFB, OH
Repperger Research Intern — Jun-Aug 2013

- Focused on predictive filtering using multi-sensor integration
- Developed computer-based models for automatically detecting and classifying various humans from aircraft-mounted cameras based on anthropometric differences in MATLAB
- Experimented with techniques in computer vision, image processing (OpenCV), Kalman filtering, machine learning, biomechanics, control theory, and stochastic modeling

OTW Technology, Inc. — Warminster, PA
Principal Engineer — Jun 2009-Aug 2012

- Designed firmware for embedded systems primarily using assembly and C on the TI MSP430 and Microchip PIC series microcontrollers
- Utilized MATLAB and Octave for spectral density analysis, filter design, data consolidation, and statistics analysis
- Implemented digital and analog circuit design and PCB layout with OrCAD and PSPICE
- Established a relational database and website for the company during the early startup process

Patents

LED Luminaire Power Supply, US 8,604,712 — Warminster, PA
Co-Inventor — Granted Dec 2013

- Introduced unique and proprietary methods for the delivery of electric current to LED luminaires

LED Retrofit Luminaire Tubes, US 8,752,978 — Warminster, PA
Co-Inventor — Granted Jun 2014

- Researched and proposed solutions addressing the shortcomings for LED-based fluorescent tube replacements

Technical Skills

Programming Languages
Python, MATLAB/Octave, C/C++, R, SQL, Java, Assembly, HTML, CSS

Software Proficiency
Bash, Linux, Git, Eclipse, AWS, SGE, Vim, LaTeX, Tmux, Oracle SQL Developer, OrCAD, SPICE, MS Office

Interests and Activities

Guitar, banjo, music recording and production, running, skiing, hiking, kayaking, rock climbing, ultimate frisbee