Daniel N. Hill

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EDUCATION

Computational Neuroscience, PhD, 2009, University of California, San Diego

Electrical and Computer Engineering, MS, 2008, University of California, San Diego

Computer Science, BS, 2002, Rochester Institute of Technology

EXPERIENCE

Machine Learning Scientist, 2015-present
Amazon, Palo Alto, CA

Senior Data Scientist, 2013-2015
Integral Ad Science, New York, NY

Led "Causal Impact" project to estimate ROI of digital ad campaigns using observational analysis when A/B tests are unavailable.

Post-doctoral Researcher, 2010-2012
Technical University of Munich, Germany

Recorded and analyzed high frame rate video of calcium activity in neuronal dendrites. Worked in collaboration with Nobel Laureate Bert Sakmann.

Doctoral Student, 2003-2009
UCSD Neurophysics Lab, San Diego, CA

Recorded neural-muscular data to build models of how rats explore their environments using their whiskers. Created an open source MATLAB toolbox called **UltraMegaSort2000** for performing clustering on electrophysiological data.

Research Assistant, 2001-2002
Los Alamos National Laboratory, New Mexico

Implemented and parallelized clustering algorithms for genome data. Coded neural network model of retina to simualte Benham's Top illusion.

SKILLS

Programming: MATLAB, SQL, Python, BASH, awk, Pig, Hadoop, HBase, Git,LaTeX, R, Spark, HTML, C, Java, JavaScript, API-scraping

Statistics and Machine Learning: GLM, logistic regression, random forest, GBM, DSP, filter design, non-parametric statistics, survival analysis, causality, clustering

SELECTED PUBLICATIONS

Hill DN, Moakler R, Hubbard AE, Tsemekhman V, Provost F, Tsemekhman K. Measuring causal impact of online actions via natural experiments: application to display advertising. Submitted.

Hill DN, Mehta SB, Kleinfeld D. Quality metrics to accompany spike sorting of extracellular signals. J. Neurosci. 31:8699-8705 (2011)

Hill DN, Curtis J, Moore JD, Kleinfeld D. Primary motor cortex reports efferent control of vibrissa position on multiple timescales. Neuron. 72(2):344-56 (2011).