

Vivek Athalye

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| CONTACT INFORMATION | Vivek Athalye Brain-Machine Interface Systems Laboratory 7th Floor Sutardja Dai Hall, Berkeley, CA 94720 | viveka@eecs.berkeley.edu www.eecs.berkeley.edu/~viveka (320) 237-0884 |
| RESEARCH INTERESTS | Signal processing, machine learning, brain-machine interfaces, neural dynamics of action learning and execution | |
| EDUCATION | University of California, Berkeley , Berkeley, CA 2011 – present <ul style="list-style-type: none">• Ph.D. Electrical Engineering• Advisor: Professor Jose Carmena Stanford University , Stanford, CA 2007 – 2011 <ul style="list-style-type: none">• B.S. Electrical Engineering, with Distinction• <i>Concentration: Circuits and Devices, Signal Processing</i> | |
| EXPERIENCE | Apple Inc. , Camera Algorithms Group, Cupertino, CA 2011 Developed machine vision object recognition algorithms for iPhone GPS Lab , Per Enge, Stanford University, Stanford, CA 2011 Resurrected the lab's RF Noise-floor Measurement System. Developed code to synchronize switching antennae, switching measurement frequency band, controlling the motor, and collecting spectrum analyzer data. Neural Prosthetics Lab , Krishna Shenoy, Stanford University, Stanford, CA 2010 <i>Hardware:</i> Designed a networked FPGA chip to process neural signals in real-time and output a prosthetic mouse cursor. Designed for clinical use in pilot trials in Stanford Hospital. <i>Algorithms:</i> Developed discrete decoding algorithms based on SVMs. Developed continuous decoding algorithms based on optimal filtering with regularization. Transducers Lab , Laurent Giovangrandi, Stanford University, Stanford, CA 2011 Received \$ 1000 grant to design and build a robust weight-distribution sensing system for control of an electrically-driven skateboard. Built a working prototype utilizing a strain gauge Wheatstone bridge design that has multiplexed connections allowing sensing of total weight and weight distribution. Computer Systems Lab , Teresa Meng, Stanford University, Stanford, CA 2009 Optimized systems level implementation of Bayesian Inference of cellular signaling networks, significantly contributing to the 7.5x speed up of GPU performance over GPP. Implemented order sampler portion of algorithm on FPGA for performance comparison. | |
| HONOURS AND AWARDS | NSF Graduate Research Fellowship (2012-2015) UC Berkeley EECS Departmental Fellowship (2011) Stanford Graduation with Distinction (top 10 % of graduating class) Tau Beta Pi Engineering Honors Society (top 25 % of graduating engineers) 2010 Stanford VPUE Research Grant 2007-2011 Robert C Byrd Honors Scholarship | |
| PUBLICATIONS | M. D. Linderman, R. Bruggner, V. Athalye, T. H. Meng, N. Bani Asadi, G. P. Nolan, "High-throughput bayesian network learning using heterogeneous multicore computers", In Proc. of the Intl. Conf. on Supercomputing, 2010. | |
| TECHNICAL | Programming: C, C++, Python, Java Analysis: Matlab, Mathematica, CVX Hardware: Verilog, SPICE, LabView, PCB layout | |
| ACTIVITIES | Stanford Scientific Magazine , Writer and Business Team Leader 2008 Articles: Discovering Cellular Immortality, RAMPART Seizure Study, The Laser that Conducts the Neural Orchestra. Business Team: Organized magazine distribution and professor talks to the Stanford and Palo Alto community. | |