Andrew Kyle Lampinen

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Education

Ph.D. Psychology, Stanford University, Fall 2015-Present
- Advisor: James L. McClelland

B.A. Mathematics, Physics, UC Berkeley, May 2014
- Highest honors in mathematics, high distinction in general scholarship.
- GPA: 4.0 Math, 3.9 Physics, 3.9 cumulative.
- Study Abroad Internship, A*STAR IHPC Singapore, Summer 2012. (See Research Experience.)

Honors

National Science Foundation Graduate Research Fellowship, Fall 2015-Present
Percy Lionel Davis Award for Excellence in Scholarship in Mathematics, May 2014
Berkeley Physics Olsen Scholar 2013-2014
Berkeley Letters & Science Dean's List 2012-2014
Berkeley Physics Undergraduate Research Scholar, Spring & Fall 2012

Research Experience

Graduate Student Researcher, Stanford University Department of Psychology, August 2015 - Present
- Developing experiments to investigate the effects of example choice on concept learning.

Associate Professional Staff I, Johns Hopkins University Applied Physics Laboratory, June 2014 - July 2015
- Developed models and simulations of sensor systems, shipping and transportation, and autoimmune diseases.
- Worked on image classification, by neural network methods.
- Devised metrics for assessing sensors.

Student Research Associate, Lawrence Berkeley National Laboratories, January - May 2012 & August - December 2012
- Developed simulations of processes in nuclear physics.
- Engineered software and hardware for efficiently collecting & analyzing data.

Summer Research Intern, A*STAR Institute of High Performance Computing, Singapore, June - August 2012
- Wrote and adapted simulations of crystallization processes in super-cooled metals.
- Developed software for analyzing and visualizing the structure of crystals.

Research Assistant, UC Davis Plant Sciences, June - August 2011
- Developed procedures and software for testing the physical attributes of fruit.

Presentations

Cherenkov Radiation Based False Positive Detection for Rare Decays, Berkeley Undergraduate Physics Spring Poster Session, May 2012

Teaching Experience

Undergraduate Student Instructor, UC Berkeley Mathematics, Spring, Fall 2013, & Spring 2014
- Planned and taught discussion sections.
- Held office hours.
- Wrote and graded quizzes and midterms.

Teaching Assistant, UC Berkeley Early Academic Outreach Program, June-July 2013

- Held office hours.
- Substitute taught classes.

Technical Skills

Mathematics: Knowledge across many domains, with applications.

- Algebraic geometry, linear & non-linear optimization, abstract algebra & category theory, etc.
- Practical applications to machine learning, computer vision, neural coding, physics, etc.

Physics: Experienced in a wide variety of applied and experimental contexts.

- Statistical mechanics, biophysics, analytic mechanics, etc.
- Experimentation ranging from NMR to quantum entanglement.

Programming: Experienced user of Python, C, C++, Matlab, some knowledge of R, Mathematica, Macaulay2, Haskell.

- Used many common libraries for these languages, e.g. numpy, scipy, matplotlib, Matlab Computer Vision Toolbox, FFTW.

Modeling & Simulation: Developed models and simulations for a variety of phenomena

- Developed both from published methods and directly from physical principles.

Data Analysis: Significant experience with standard data analysis techniques.

- Linear & non-linear fitting algorithms & goodness-of-fit tests.

Laboratory Equipment: Competent with most common laboratory equipment.

- Oscilloscopes, standard & lock-in amplifiers, signal generators, etc.

Computer Experienced with various operating systems and software applications.

- Windows and Linux systems.
- Office, Photoshop & Illustrator.
- HTML & LaTeX.