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Jacob D Abernethy**Contact Address:**

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EDUCATION

Graduate

(PhD Candidate) UC Berkeley, Dept. of Computer Science (Fall 2006 - Present). Primary focus is algorithms in Machine Learning, Sequential Decision Making, Online Algorithms, and Game Theory.

(Masters - Computer Science) Toyota Technological Institute (Spring 2006)

Undergraduate

(Bachelors - Mathematics) Massachusetts Institute of Technology (June 2002)

Budapest Semesters in Mathematics (Spring 2000)

University of Massachusetts at Amherst (Fall '98 - Fall '99 and Fall 2000)

WORK

Research

Microsoft Research New England, intern with Adam Kalai and Nina Balcan at MSR in Cambridge MA (Summer 2009)

Yahoo! Research, intern with Olivier Chapelle at Yahoo! Research Santa Clara. (Summer 2007)

Convexus Advisors, algorithms and online portfolio selection strategies research for startup hedge fund. (Fall 2006 through Winter 2008)

Yahoo! Research, intern with John Langford at Yahoo! Research New York. (Summer 2006)

INSEAD, research assistant with Prof. Theodoros Evgeniou, in Fontainebleau, France. (Spring 2004)

L'Ecole des Mines and INSEAD, research assistantship in collaborative filtering, machine learning, and matrix approximation, Fontainebleau, France (Feb - March '06)

Brigham and Women's Hospital, research assistantship in bioinformatics with microarray dataset analysis, Boston, MA (July '03 - Mar. '04)

Publications and Manuscripts

- **A Stochastic View of Optimal Regret through Minimax Duality**, Abernethy, J., Agarwal, A., Bartlett, P., Rakhlin, A., *Conference on Learning Theory, 2009*
- **Beating the Adaptive Bandit with High Probability**, Abernethy, J., Rakhlin, A., *Conference on Learning Theory, 2009*
- **Graph Regularization Methods for Web Spam Detection**, Abernethy, J., Chappelle, O., Castillo, C., *Accepted for Publication, Machine Learning Journal, November 2009*
- **A New Approach to Collaborative Filtering: Operator Estimation with Spectral Regularization**, Abernethy, J., Bach, F., Evgeniou, T., Vert, J.P., *Journal of Machine Learning Research, March 2009*
- **Optimal Strategies from Random Walks** Abernethy, J., Yellin, J., Warmuth, M., *Conference on Learning Theory, 2008*
- **Competing in the Dark: An Efficient Algorithm for Bandit Linear Optimization** Abernethy, J., Hazan, E., Rakhlin, A., *Conference on Learning Theory, 2008*
Best Student Paper Award and 2008 Pat Goldberg Memorial Best Paper Award from IBM
- **Optimal Strategies and Minimax Lower Bounds for Online Convex Games** Abernethy, J., Bartlett, P., Tewari, A., Rakhlin, A. *Conference on Learning Theory, 2008*
- **WITCH: Web Spam Identification Through Content and Hyperlinks**, Abernethy, J., Chapelle, O., Castillo, C., *WWW2008, Workshop on Adversarial Information Retrieval*
- **Eliciting Consumer Preferences using Robust Adaptive Choice Questionnaires**, Abernethy, J., Evgeniou, T., Toubia, O., Vert, J.P., *IEEE Transactions on Knowledge and Data Discovery, 2007.*
- **Multitask Learning with Expert Advice.** Abernethy, J., Bartlett, P., Rakhlin, A., *Conference on Learning Theory, 2007.*

- **Online Discovery of Similarity Mappings.** Rakhlin, A., Abernethy, J., Bartlett, P., *International Conference on Machine Learning, 2007.*
- **The Binning Algorithm and Continuous Experts.**, Abernethy, J., Langford, J., Warmuth, M., *Conference on Learning Theory 2006.*

Management and Development

- **Co-Founder and Designer of MLcomp.org** – Primary developer (with Percy Liang) of MLcomp, a collaborative environment for objectively executing and comparing machine learning programs. We hope to make MLcomp a central hub for experimental ML research (March 2008 to Present)
- **CSGSA President at UC Berkeley** – The Computer Science Graduate Student Association is UC Berkeley’s primary CS grad student organization. The CSGSA runs all social events, manages relationships with industry partners, maintains several community programs, has roughly 30 officers and serves over 250 students. (May 2008 to Present)
- **Communications Coordinator, MEET** – the Middle East Education through Technology, an educational initiative aimed at teaching Computer Science and Entrepreneurship to Israeli and Palestinian high school students in Jerusalem. More information can be found at <http://meet.csail.mit.edu> (Jan. ‘03 - Dec. ‘06)

ACTIVITIES

Juggling and Performing

I have been a juggler since the age of 14, and a performer since the age of 16. Juggling has been both a hobby, a source of exercise, and a part time career.

Racquetball

Men’s Team Leading Player, UC Berkeley Racquetball 2008-2010.

Bicycling

Avid touring cyclist. Longest trip began in Boston and ended in San Francisco, totaling 4600 miles, 72 days, and 13 flat tires. More information at <http://kvand.no-ip.org/xcountry/>

AWARDS

Academic

- **Yahoo! PhD Fellowship 2008 Winner**, one of four students to receive full two years of financial support towards a PhD. (Spring 2008)
- **Winner of the Web Spam Challenge**, Track II of a Machine Learning competition that compared submitted algorithms for detecting Web Spam. (Summer 2007)
- **Winner of Key Technical Challenges Grant**, a Yahoo!-funded award of \$5000 in support of academic research. (Spring 2007)

Performing

Invited to perform Comedy/Juggling routine as the opener for two well-known comedians, Sinbad and later Dave Chappelle, during their appearances at the University of Massachusetts, Amherst.

Winner of the UMass College Comedy Bake-Off, acquiring the title of *Funniest Student at UMass*, Oct. 3rd, 2001

Winner of the national College Comedy Bake-Off, acquiring the title of *Funniest Student in America*.

Featured on a commercial played on the *College TV Network*.