

# Alan Malek

## Curriculum Vitae

### Postdoc

- 2017-current **Postdoctoral Associate**, *Massachusetts Institute of Technology*, IDSS and LIDS, Cambridge, MA.  
Advised by Ali Jadbabaie and Alexander Rakhlin

### Education

- 2009-2016 **Ph.D. Electrical Engineering and Computer Science**, *University of California*, Berkeley, CA.  
Thesis Advisor: Peter Bartlett  
Thesis Title: Sequential Decision Making
- 2009-2013 **M.A. Statistics**, *University of California*, Berkeley, CA.
- 2005-2009 **M.S. Electrical Engineering**, *Stanford University*, Palo Alto, CA.
- 2005-2009 **B.S. Mathematics**, *Stanford University*, Palo Alto, CA.  
minor in Physics

### Publications

- W, Kotłowski, W. Koolen, A. Malek. Random Permutation Online Isotonic Regression. *Advances in Neural Information Processing Systems (NIPS) 29*, December 2017.
- A. Malek, Y. Chow, M. Ghavamzadeh, S. Katariya. Sequential Multiple Hypothesis Testing with Type I Error Control. *Proceedings of Artificial Intelligence and Statistics (AISTATS)*, April 2017.
- Y. Abbasi-Yadkori, P. Bartlett, V. Gabillon, A. Malek. Hit-and-Run for Sampling and Planning in Non-Convex Spaces. *Proceedings of Artificial Intelligence and Statistics (AISTATS)*, April 2017.
- W, Kotłowski, W. Koolen, A. Malek. Online Isotonic Regression. *Proceedings of the Conference on Learning Theory (COLT)*, June 2016.
- W. Koolen, A. Malek, P. Bartlett, and Y. Abassi-Yadkori. Minimax Time Series Prediction. *Advances in Neural Information Processing Systems (NIPS) 28*, December 2015.
- P. Bartlett, W. Koolen, A. Malek, E. Takimoto, M. Warmuth. Minimax fixed-design linear regression. In *Proceedings of the Conference on Learning Theory (COLT)*, volume 40, June 2015.

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- Y. Abbasi-Yadkori, P. Bartlett, X. Chen, A. Malek. Large-scale Markov decision problems with KL control cost. In *Proceedings of the 32nd International Conference on Machine Learning (ICML)*. June 2015.
- W. Koolen, A. Malek, P. Bartlett. Efficient minimax strategies for square loss games. In *Advances in Neural Information Processing Systems (NIPS) 27*, December 2014.
- Y. Abbasi-Yadkori, P. Bartlett, and A. Malek. Linear programming for large-scale Markov decision problems. In *Proceedings of the 31st International Conference on Machine Learning (ICML)*, 2014.

## Preprints

- Y. Abbasi-Yadkori, P. Bartlett, and A. Malek. Linear programming for large-scale Markov decision problems. *arXiv:1402.6763 [math.OC]*, 2014.

## Talks

- July 2016 **Minimax Strategies for Square Loss Games**, *Artificial Intelligence and Reinforcement Learning Seminar*, University of Alberta.
- August 2016 **Minimax Strategies for Square Loss, Linear Regression, and Time-series Prediction**, *Machine Learning Seminar*, MIT.
- April 2016 **Keynote**, *Harker Research Symposium*.

## Teaching

- Spring 2016 **CS281b/Stat241b TA**, *UC Berkeley*, Statistical Learning Theory II.
- Statistical risk bounds, minimax game theoretic algorithms, neural networks, kernel methods, ensemble methods
  - Responsible for: homework and solutions, grading
- Fall 2015 **CS281a/Stat241a TA**, *UC Berkeley*, Statistical Learning Theory.
- Graphical models, general inference, statistical estimation
  - Responsible for: discussion section, homework and solutions, grading
- Spring 2014 **CS281b/Stat241b TA**, *UC Berkeley*, Statistical Learning Theory II.
- Machine learning, Online prediction, kernel methods, boosting, etc.
  - Responsible for: grading, office hours, homework solutions
- Spring 2011 **EE20N TA**, *UC Berkeley*, Signals and Systems.
- Responsible for: weekly lab (using Labview), discussion sections, office hours
- Spring 2011 **EE20N TA**, *UC Berkeley*, Signals and Systems.
- Responsible for: weekly lab (using Labview), discussion sections, office hours

## Service

- 2014-2017 **Reviewer**, *NIPS*. *Best reviewer award 2017*.
- 2017 **Reviewer**, *UAI*.
- 2017 **Reviewer**, *AAAI*.
- 2017-18 **Subreviewer**, *Algorithmic Learning Theory*.
- 2016-17 **Subreviewer**, *Conference on Learning Theory*.

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- 2015-2016 **AI/ML Admissions Committee**, *UC Berkeley EECS Department.*  
2014-2015 **AI/ML Admissions Committee**, *UC Berkeley EECS Department.*  
2015 **Student Laptop Committee**, *UC Berkeley EECS Department.*  
2010-2011 **Social Chair**, *UC Berkeley EE Graduate Student Assembly.*  
Fall 2008 - **Stanford Ceramics Club**, *Founder, President, Studio Manager.*  
Spring 2009

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## Work Experience

- May 2015 **Data Science Intern**, *Adobe Research.*  
-January 2016
  - Developed sequential hypothesis testing techniques with theoretical and empirical evaluations
  - Extended work to multiple sequential hypothesis tests
  - Three patents in submission
- May 2014 - **Data Science Intern**, *Upwork.*  
September 2014
  - Modeled client potential value and intervention susceptibility
  - Worked on algorithms to improve job/freelancer matching
- June 2008 - **Science Intern**, *Anchor Intelligence.*  
September 2008
  - Developed tools to identify click fraud in online advertisement data
- June 2007 - **Engineering Intern**, *Intuitive Surgical.*  
September 2007
  - Simulated and optimized kinematics of prototype manipulator
- June 2006 - **Engineering Intern**, *Intuitive Surgical.*  
September 2006
  - Built and tested electrical system for prototype product

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## References

### **Peter Bartlett**

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University of California, Berkeley  
Berkeley, CA 94720-3840  
✉ bartlett@cs.berkeley.edu

### **Ali Jadbabaie**

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