

Pang Wei Koh

<http://cs.stanford.edu/~pangwei>

EDUCATION

Stanford University

9/16 – Present

- PhD student, Computer Science. Advised by Prof Percy Liang.

Stanford University

9/09 – 6/13

- MSc Computer Science (Artificial Intelligence & Biocomputation)
- BSc Computer Science with Distinction, Honors, & Minor in Math. Advised by Profs Andrew Ng & Daphne Koller.
- Overall GPA: 4.19/4, CS GPA: 4.23/4. GRE: Quantitative 800/800, Verbal 800/800, Writing 6/6.

AWARDS

Facebook PhD Fellowship	2018
Best Paper Award, International Conference in Machine Learning	2017
Top 10 Papers of 2016-2017 in Regulatory and Systems Genomics (RECOMB/ISCB)	2017
Best Poster Award, International Conference in Machine Learning, Workshop on Computational Biology	2016
Frederick E. Terman Award (<i>top 5% of Stanford Engineering seniors in overall academic performance</i>)	2013
Overall Winner, Undergraduate Awards (<i>given to one student annually by the President of Ireland for excellence in CS research</i>)	2012
David M. Kennedy Honors Thesis Prize (<i>best honors thesis in Stanford applied sciences and engineering</i>)	2012
Ben Wegbreit Prize (<i>best honors thesis in Stanford Computer Science</i>)	2012
Firestone Medal for Excellence in Research (<i>one of 28 Stanford-wide awards for research</i>)	2012
President's Award for Academic Excellence in the Freshman Year (<i>top 3% in Stanford class</i>)	2009
Craig and Susan McCaw Scholarship for International Students (<i>full funding for 4 years at Stanford</i>)	2009
Lee Kuan Yew Award for Mathematics and Science (<i>top 10 students in Singapore</i>)	2006
International Olympiad in Informatics & International Chemistry Olympiad Bronze medals	2006
National Olympiad in Informatics & Singapore Math Olympiad Gold medals	2006

PUBLICATIONS

- Stronger data poisoning attacks break data sanitization defenses. PW Koh*, J Steinhardt*, and P Liang. *arXiv* 2018.
- Inferring multi-dimensional rates of aging from cross-sectional data. E Pierson*, PW Koh*, T Hashimoto*, D Koller, J Leskovec, N Eriksson, and P Liang. Contributed talk at *ICML/IJCAI 2018 Workshop on Computational Biology*. Spotlight talk at *NeuRIPS 2018 Workshop on Machine Learning for Health*.
- Time-series super-resolution with temporal adaptive batch normalization. V Kuleshov, S Birnbaum, Z Enam, PW Koh, and S Ermon. *NeuRIPS 2018 Workshop on Modeling and Decision-making in the Spatiotemporal Domain*.
- Certified defenses for data poisoning attacks. J Steinhardt*, PW Koh*, and P Liang. *NeuRIPS 2017*. Contributed talk at *ICML 2017 Workshop on Reliable Machine Learning in the Wild*.
- Understanding black-box predictions via influence functions. PW Koh and P Liang. *ICML 2017*. **Best paper award**.
- Localized hepatic lobular regeneration by central vein associated lineage-restricted progenitors. JM Tsai, PW Koh, GG Walmsley, N Poux, IL Weissman, Y Rinkevich. *Proceedings of the Natl. Acad. of Sciences*, 2017.
- An atlas of transcriptional, chromatin accessibility, and surface marker changes in human mesoderm development. PW Koh*, R Sinha*, A Barkal, ..., A Kundaje, K Loh. *Scientific Data*, 2016.
- A comprehensive roadmap from pluripotency to human bone, heart and other mesoderm cell types. KM Loh*, A Chen*, PW Koh, TZ Deng, ..., A Kundaje, WS Talbot, PA Beachy, LT Ang, IL Weissman. *Cell*, 2016.
- Denosing genome-wide histone ChIP-seq with convolutional neural networks. PW Koh*, Pierson E*, A Kundaje. *ISMB 2017, Bioinformatics*. Spotlight talk at *ICML Workshop on Comp. Bio. 2016*; **best poster award**. Selected for **top 10 papers of 2016-2017 in regulatory and systems genomics** by RECOMB/ISCB.

Dissecting an online intervention for cancer survivors. Z Chen, PW Koh, P Ritter, K Lorig, E Bantum, S Saria. *Health Educ. Behavior*, 2014.

Peer and self assessment in massive online classes. C Kulkarni, PW Koh, H Le, D Chia, K Papadopoulos, D Koller, S Klemmer. *ACM Transactions on Computer-Human Interaction*, 2013.

Identifying genetic drivers of cancer morphology. PW Koh, A Beck, and D Koller. Undergrad thesis, 2012.

Sparse filtering. J Ngiam, PW Koh, Z Chen, S Bhaskar, A Ng. *NIPS 2011*. **Spotlight paper**.

Learning deep energy models. J Ngiam, Z Chen, PW Koh, A Ng. *ICML 2011*.

On random weights and unsupervised feature learning. A Saxe, PW Koh, Z Chen, ..., A Ng. *ICML 2011*.

Tiled convolutional neural networks. QV Le, J Ngiam, Z Chen, D Chia, PW Koh, A Ng. *NIPS 2010*.

Lower bound on the time complexity of local adiabatic evolution. Z Chen, PW Koh, Z Yan. *Phys. Rev. A* 74, 2006.

WORK EXPERIENCE

- Research Intern, Calico Life Sciences** **6/17 – 9/17**
- Studied aging in the UK Biobank
- Data Analyst, Kundaje Lab, Stanford** **7/15 – 8/16**
- Worked on deep learning models of histone modifications and studied mesoderm differentiation
- Product Manager, Coursera Inc.** **1/14 – 7/15**
- Led product management for all university-facing and instructor-facing products on the Coursera platform
- Director of Partnerships and Course Operations, Coursera Inc.** **3/12 – 1/14**
- Employee #3. Established and led the Partnerships and Course Operations functions at Coursera, building a team of 25 people working with 100+ university partners and millions of learners around the world.
- Head Teaching Assistant, Probabilistic Graphical Models, Stanford** **10/11 – 5/12**
- Led a team of 9 graduate teaching assistants in redesigning a graduate-level computer science class to be taught on the Coursera platform, both to Stanford students and to 30,000 public students

INVITED TALKS

Academic

Machine Learning Group, Massachusetts Institute of Technology, 2017
 Discrete Algorithms Group, Google, 2017
 ICML Workshop on Human Interpretability, 2017
 Machine Learning Group, University of Cambridge, 2017
 Microsoft Research Cambridge, 2017
 Alan Turing Institute, London, 2017
 Institute of Molecular and Cell Biology, Singapore, 2016

Coursera

European MOOC Summit, École polytechnique fédérale de Lausanne (EPFL), Lausanne, 2013
 Ohio Higher Education Trustees Conference, Columbus, 2013
 Association of Academic Health Centers Annual Meeting, Boston, 2013
 Association of Schools of Allied Health Professions Spring Meeting, San Diego, 2013
 I have also presented and/or led workshops at the following universities: Emory University, Georgia Tech, Johns Hopkins University, National University of Singapore, University of Illinois Urbana-Champaign, University of Maryland at College Park, University of Michigan–Ann Arbor, University of Wisconsin–Madison, Penn State University, Pittsburgh University, Princeton University, and Vanderbilt University.

SERVICE

Journal reviewer for JMLR, Distill, IEEE/ACM Transactions on Comp. Bio. and Bioinformatics.
 Conference reviewer for UAI 2018, ICML 2018, NIPS 2018, ICLR 2019, ICML 2019.

OTHER ACTIVITIES

EcoTraining (South Africa) – *Field guide*

4/09 – 5/09

- Trained as an accredited safari field guide in the Karongwe Reserve

Informatics.RI (Singapore) – *Co-creator and teacher*

11/08 – 12/08

- Educational venture. Conceptualized, designed, and conducted a series of 14 full-day workshops on artificial intelligence, cryptography, programming and networking, with 100+ students participating.

School of Armor, Singapore Armed Forces – *Lieutenant / Instructor, Officer Training Wing*

1/07 – 11/08

- Commissioned in the top 10 of the class of armored infantry officers. Trained as a platoon commander