Pang Wei Koh

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EDUCATION

Stanford University   **9/16 –**
- PhD student, Computer Science. Advised by Prof. Percy Liang.

Stanford University   **9/09 – 6/13**
- MSc Computer Science (Artificial Intelligence and Biocomputation), June 2013.
- BSc Computer Science with Distinction, Honors, and Minor in Mathematics, June 2013.
- Overall Undergraduate GPA: 4.19/4, Computer Science Major GPA: 4.23/4.
- GRE: Quantitative 800/800, Verbal 800/800, Writing 6/6.
- Relevant coursework: machine learning, statistics, numerical methods; genetics, genomics, cancer biology.

Raffles Institution (High School) (Singapore)   **1/05 – 12/06**
- GCE 'A' Levels: 8 Distinctions (*top in country*).
- Gifted Education Program (*top 0.5% in country*).

AWARDS

Frederick E. Terman Award (*top 5% of Stanford Engineering seniors in overall academic performance*)	2013
Ernest Walton Medal (Overall Winner, Undergraduate Awards) (*given to one student annually by the President of Ireland for excellence in CS research*)	2012
David M. Kennedy Honors Thesis Prize (*best honors thesis in Stanford applied sciences and engineering*)	2012
Ben Wegbreit Prize (*best honors thesis in Stanford Computer Science*)	2012
Firestone Medal for Excellence in Research (*one of 28 Stanford-wide awards for research*)	2012
President's Award for Academic Excellence in the Freshman Year (*top 3% in Stanford class*)	2009
Craig and Susan McCaw Scholarship for International Students (*full funding for 4 years at Stanford*)	2009
Lee Kuan Yew Award for Mathematics and Science (*top 10 students in Singapore*)	2006
International Olympiad in Informatics & International Chemistry Olympiad Bronze medals	2006
National Olympiad in Informatics & Singapore Math Olympiad Gold medals	2006
3rd Prize (Computer Science), Taiwan International Science Fair	2006
Team 1st, Asia ICT Confederation AGAMES (*Singaporean team, regional (Asia) programming competition*)	2005

PUBLICATIONS

Certified defenses for data poisoning attacks. J Steinhardt*, PW Koh*, and P Liang. Under review.

Understanding black-box predictions via influence functions. PW Koh and P Liang. *ICML 2017*.

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, R Morganti, A Chen, I Weissman, LT Ang, 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.

Denoising genome-wide histone ChIP-seq with convolutional neural networks. PW Koh*, Pierson E*, A Kundaje. Presented at *ICML Workshop on Computational Biology 2016:* spotlight talk, best poster award. *ISMB 2017* and *Bioinformatics.*

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, M Bhand, B Suresh, 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

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

DAGS Research Group, Stanford Artificial Intelligence Laboratory   1/11 – 4/12
- Probabilistic modeling in computational cancer biology and medical informatics, under Prof. Daphne Koller

Machine Learning Group, Stanford Artificial Intelligence Laboratory   9/09 – 12/11
- Deep neural networks for unsupervised feature learning in computer vision and audio, under Prof. Andrew Ng

TALKS

European MOOC Summit, École polytechnique fédérale de Lausanne (EPFL), Lausanne, 2013
European MOOCs in a Global Context Workshop, University of Wisconsin-Madison, 2013
Ohio Higher Education Trustees Conference, Columbus, 2013
Annual American Dental Education Association Deans' Conference, Savannah, 2013
Association of Academic Health Centers Annual Meeting, Boston, 2013
Association of Schools of Allied Health Professions Spring Meeting, San Diego, 2013
Coursera Partners' Conference, University of London, 2014
Coursera Partners' Conference, University of California, Irvine, 2015
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.

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