

Stanford



Percy Liang

Associate Professor of Computer Science and, by courtesy, of Statistics

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

Percy Liang is an Associate Professor of Computer Science at Stanford University (B.S. from MIT, 2004; Ph.D. from UC Berkeley, 2011). His two research goals are (i) to make machine learning more robust, fair, and interpretable; and (ii) to make computers easier to communicate with through natural language. His awards include the Presidential Early Career Award for Scientists and Engineers (2019), IJCAI Computers and Thought Award (2016), an NSF CAREER Award (2016), a Sloan Research Fellowship (2015), and a Microsoft Research Faculty Fellowship (2014).

ACADEMIC APPOINTMENTS

- Associate Professor, Computer Science
- Associate Professor (By courtesy), Statistics

PROFESSIONAL EDUCATION

- BS, MIT (2004)
- MEng, MIT (2005)
- PhD, UC Berkeley (2011)

Teaching

COURSES

2019-20

- Artificial Intelligence: Principles and Techniques: CS 221 (Aut)
- Artificial Intelligence: Principles and Techniques: OSPKYOTO 221K (Aut)

2018-19

- Artificial Intelligence: Principles and Techniques: CS 221 (Aut)

2017-18

- Artificial Intelligence: Principles and Techniques: CS 221 (Aut)

2016-17

- Artificial Intelligence: Principles and Techniques: CS 221 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Adam Lavertu, Peng Qi, Zhengshan Shi

Postdoctoral Faculty Sponsor

Chris Donahue

Doctoral Dissertation Advisor (AC)

Robin Jia

Master's Program Advisor

Prabhat Agarwal, Jonathan Li, Lucas Lin, Claire Pajot, Nguyet Minh Phu, Chetanya Rastogi

Doctoral Dissertation Co-Advisor (AC)

Daniel Levy, Pranav Rajpurkar

Doctoral (Program)

Robin Jia, Fereshte Khani, Pang Wei Koh, Mina Lee, Steve Mussmann, Aditi Raghunathan, Shiori Sagawa, Tim Shi, Michael Xie

Publications

PUBLICATIONS

- **Inferring Multidimensional Rates of Aging from Cross-Sectional Data.** *Proceedings of machine learning research*
Pierson, E., Koh, P. W., Hashimoto, T., Koller, D., Leskovec, J., Eriksson, N., Liang, P.
2019; 89: 97–107
- **Defending against Whitebox Adversarial Attacks via Randomized Discretization**
Zhang, Y., Liang, P., Chaudhuri, K., Sugiyama, M.
MICROTOME PUBLISHING.2019: 684–93
- **Inferring Multidimensional Rates of Aging from Cross-Sectional Data**
Pierson, E., Koh, P., Hashimoto, T., Koller, D., Leskovec, J., Eriksson, N., Liang, P., Chaudhuri, K., Sugiyama, M.
MICROTOME PUBLISHING.2019: 97–107
- **A Retrieve-and-Edit Framework for Predicting Structured Outputs**
Hashimoto, T. B., Guu, K., Oren, Y., Liang, P., Bengio, S., Wallach, H., Larochelle, H., Grauman, K., CesaBianchi, N., Garnett, R.
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2018
- **Feature noising for log-linear structured prediction.**
Wang, S., Wang, M., Wager, S., Liang, P., Manning, C.
2013
- **A data driven approach for algebraic loop invariants.**
Sharma, R., Gupta, S., Hariharan, B., Aiken, A., Liang, P., Nori, Aditya, V.
2013
- **Spectral experts for estimating mixtures of linear regressions.**
Chaganty, A., Liang, P.
2013
- **Semantic parsing on Freebase from question-answer pairs.**
Berant, J., Chou, A., Frostig, R., Liang, P.

2013

- **Dropout training as adaptive regularization.**

Wager, S., Wang, S., Liang, P.

2013

- **Video event understanding using natural language descriptions.**

Ramanathan, V., Liang, P., Fei-Fei, L.

2013

- **Genome Editing of Human Embryonic Stem Cells and Induced Pluripotent Stem Cells With Zinc Finger Nucleases for Cellular Imaging** *CIRCULATION RESEARCH*

Wang, Y., Zhang, W. Y., Hu, S., Lan, F., Lee, A. S., Huber, B., Lisowski, L., Liang, P., Huang, M., de Almeida, P. E., Won, J. H., Sun, N., Robbins, et al
2012; 111 (12): 1494-?

- **Induced Pluripotent Stem Cells as a Disease Modeling and Drug Screening Platform** *JOURNAL OF CARDIOVASCULAR PHARMACOLOGY*

Ebert, A. D., Liang, P., Wu, J. C.

2012; 60 (4): 408-416

- **Modeling Pathogenesis in Familial Hypertrophic Cardiomyopathy Using Patient-Specific Induced Pluripotent Stem Cells** *Basic Cardiovascular Sciences Scientific Session*

Lan, F., Lee, A., Liang, P., Navarrete, E., Wang, L., Leng, H., Sanchez, V., Yen, M., Wang, Y., Nguyen, P., Sun, N., Abilez, O., Lewis, et al
LIPPINCOTT WILLIAMS & WILKINS.2012

- **Identifiability and unmixing of latent parse trees.**

Hsu, D., Kakade, Sham, M., Liang, P.

2012

- **Learning dependency-based compositional semantics.**

Liang, P., Jordan, Michael, I., Klein, D.

2011

- **Learning minimal abstractions.**

Liang, P., Tripp, O., Naik, M.

2011

- **Scaling up abstraction refinement via pruning.**

Liang, P., Naik, M.

2011

- **A dynamic evaluation of static heap abstractions.**

Liang, P., Tripp, O., Naik, M., Sagiv, M.

2010

- **Learning programs: a hierarchical Bayesian approach.**

Liang, P., Jordan, Michael, I., Klein, D.

2010

- **A game-theoretic approach to generating spatial descriptions.**

Golland, D., Liang, P., Klein, D.

2010

- **Type-based MCMC.**

Liang, P., Jordan, Michael, I., Klein, D.

2010

- **A simple domain-independent probabilistic approach to generation.**

Angeli, G., Liang, P., Klein, D.

2010

- **On the interaction between norm and dimensionality: multiple regimes in learning.**

Liang, P., Srebro, N.
2010

● **Learning from measurements in exponential families.**

Liang, P., Jordan, Michael, I., Klein, D.
2009

● **Learning semantic correspondences with less supervision.**

Liang, P., Jordan, Michael, I., Klein, D.
2009

● **Probabilistic grammars and hierarchical Dirichlet processes.** *The Oxford Handbook of Applied Bayesian Analysis*

Liang, P., Jordan, Michael, I., Klein, D.
2009

● **Online EM for unsupervised models.**

Liang, P., Klein, D.
2009

● **Asymptotically optimal regularization in smooth parametric models.**

Liang, P., Bach, F., Bouchard, G., Jordan, Michael, I.
2009

● **Optimal team size and monitoring in organizations** *ACCOUNTING REVIEW*

Liang, P. J., Rajan, M. V., Ray, K.
2008; 83 (3): 789-822

● **A probabilistic approach to language change.**

Bouchard-Côté, A., Liang, P., Griffiths, T., Klein, D.
2008

● **Agreement-based learning.**

Liang, P., Klein, D., Jordan, Michael, I.
2008

● **Learning bilingual lexicons from monolingual corpora.**

Haghighi, A., Liang, P., Berg-Kirkpatrick, T., Klein, D.
2008

● **Structure compilation: trading structure for features.**

Liang, P., Daume, H., Klein, D.
2008

● **Analyzing the errors of unsupervised learning.**

Liang, P., Klein, D.
2008

● **An asymptotic analysis of generative, discriminative, and pseudolikelihood estimators.**

Liang, P., Jordan, Michael, I.
2008

● **A probabilistic approach to diachronic phonology.**

Bouchard-Côté, A., Liang, P., Griffiths, T., Klein, D.
2007

● **A permutation-augmented sampler for Dirichlet process mixture models.**

Liang, P., Jordan, Michael, I., Taskar, B.
2007

● **Structured Bayesian nonparametric models with variational inference (tutorial).**

Liang, P., Klein, D.

2007

- **The infinite PCFG using hierarchical Dirichlet processes.**

Liang, P., Petrov, S., Jordan, Michael, I., Klein, D.

2007

- **An end-to-end discriminative approach to machine translation.**

Liang, P., Bouchard-Côté, A., Klein, D., Taskar, B.

2006

- **Alignment by agreement.**

Liang, P., Taskar, B., Klein, D.

2006

- **Linear programming in bounded tree-width Markov networks.**

Liang, P., Srebro, N.

2005

- **A data structure for maintaining acyclicity in hypergraphs.** *Massachusetts Institute of Technology Technical Report*

Liang, P., Srebro, N.

2005

- **Efficient geometric algorithms for parsing in two dimensions.**

Liang, P., Narasimhan, M., Shilman, M., Viola, P.

2005

- **Methods and experiments with bounded tree-width Markov networks.** *Massachusetts Institute of Technology Technical Report*

Liang, P., Srebro, N.

2004

- **How much of a hypertree can be captured by windmills?** *Massachusetts Institute of Technology Technical Report*

Liang, P., Srebro, N.

2003

- **INTERFEROMETRIC STUDIES OF THE JOVIAN ATMOSPHERIC PROBE FIELD**

Liang, P. Y., Prakash, S. G., Bershader, D.

AMER INST PHYSICS.1980: 1093-94

- **Saponins and sapogenins. III. The sapogenins obtained from chlorogalum pomeridianum** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*

Liang, P., Noller, C. R.

1935; 57 (1): 525-527