

Alexander Y. Ku, Curriculum Vitae

Email address: alexku@princeton.edu

Last compiled: February, 2024

Education

PhD in Psychology and Neuroscience, Princeton University, 2028 (expected)

Doctoral advisors: Thomas L. Griffiths and Jonathan D. Cohen

MS in Electrical Engineering and Computer Science, UC Berkeley, 2018

BA in Computer Science, UC Berkeley, 2017

Professional experience

Research Scientist, Google DeepMind, 2023 - present

Software Engineer, Google Research, 2018 - 2023

Research Intern, Google Brain, Summer 2018

Research Intern, Google Brain, Summer 2017

Teaching experience

TA for Data 8: The Foundations of Data Science, UC Berkeley, Fall 2017

TA for CS 188: Introduction to Artificial Intelligence, UC Berkeley, Spring 2017

TA for Data 8: The Foundations of Data Science, UC Berkeley, Fall 2016

Publications

Journal articles

J Yu, Y Xu, JY Koh, T Luong, G Baid, Z Wang, V Vasudevan, **A Ku**, Y Yang, BK Ayan, B Hutchinson, W Han, Z Parekh, X Li, H Zhang, J Baldridge, Y Wu (2022). Scaling autoregressive models for content-rich text-to-image generation. *Transactions on Machine Learning Research (TMLR)*.

R Poplin, P Chang, D Alexander, S Schwartz, T Colthurst, **A Ku**, D Newburger, J Dijamco, N Nguyen, PT Afshar, SS Gross, L Dorfman, CY McLean, MA DePristo (2018). A universal SNP and small-indel variant caller using deep neural networks. *Nature Biotechnology*, 36 (10), 983.

Peer-reviewed conference papers

Z Wang*, **A Ku***, J Baldridge, TL Griffiths, B Kim (2023). Gaussian Process Probes (GPP) for Uncertainty-Aware Probing. *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*.

A Kamath, P Anderson, S Wang, JY Koh, **A Ku**, A Waters, Y Yang, J Baldridge, Z Parekh (2022). A New Path: Scaling Vision-and-Language Navigation with Synthetic Instructions and Imitation Learning. *The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 (CVPR)*.

J Yu, X Li, JY Koh, H Zhang, R Pang, J Qin, **A Ku**, Y Xu, J Baldridge, Y Wu (2021). Vector-quantized image modeling with improved vqgan. *Tenth International Conference on Learning Representations (ICLR)*.

A Ku*, P Anderson*, J Pont-Tuset, J Baldridge (2021). Pangea: The panoramic graph environment annotation toolkit. *Proceedings of the Second Workshop on Advances in Language and Vision Research (ALVR)*.

M Zhao, P Anderson, V Jain, S Wang, **A Ku**, J Baldridge, E Ie (2021). On the evaluation of vision-and-language navigation instructions. *The 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*.

A Ku*, P Anderson*, R Patel, E Ie, J Baldridge (2020). Room-Across-Room: Multilingual Vision-and-Language Navigation with Dense Spatiotemporal Grounding. *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.

H Huang*, V Jain*, H Mehta, **A Ku**, G Magalhaes, J Baldridge, E Ie (2019). Transferable Representation Learning in Vision-and-Language Navigation. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*.

G Magalhaes, V Jain, **A Ku**, E Ie, J Baldridge (2019). Effective and General Evaluation for Instruction Conditioned Navigation using Dynamic Time Warping. *Advances in Neural Information Processing Systems Workshop on Visually Grounded Interaction and Language (ViGIL)*.

V Jain*, G Magalhaes*, **A Ku***, A Vaswani, E Ie, J Baldridge (2019). Stay on the Path: Instruction Fidelity in Vision-and-Language Navigation. *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL)*.

N Parmar*, A Vaswani*, J Uszkoreit, Ł Kaiser, N Shazeer, **A Ku**, D Tran (2018). Image Transformer. *Proceedings of the 35th International Conference on Machine Learning (ICML)*.

JC Peterson, JW Suchow, K Aghi, **AY Ku**, TL Griffiths (2018). Capturing human category representations by sampling in deep feature spaces. *Proceedings of the 40st Annual Conference of the Cognitive Science Society (CogSci)*.

References

Thomas L. Griffiths

Professor of Psychology and Computer Science, Princeton University

Email address: tomg@princeton.edu

Jonathan D. Cohen

Professor of Psychology and Neuroscience, Princeton University

Email address: jdc@princeton.edu

Jason Baldridge

Senior Staff Research Scientist, Google DeepMind

Email address: jridge@google.com

Been Kim

Senior Staff Research Scientist, Google DeepMind

Email address: beenkim@google.com