

Alexander Ku

Email: alexku@princeton.edu

Phone: +1 (650) 575-7547

Education

PhD in Psychology from Princeton University, 2028 (expected)

MS in Electrical Engineering & Computer Science from UC Berkeley, 2018

BA in Computer Science from UC Berkeley, 2017

Professional experience

Research Scientist at Google DeepMind, 2018 - present

Research Intern at Google Brain, Summer 2018

Research Intern at Google Brain, Summer 2017

Teaching experience

Graduate Student Instructor at UC Berkeley

Data 8: The Foundations of Data Science, Fall 2017 (head TA)

CS 188: Introduction to Artificial Intelligence, Spring 2017

Data 8: The Foundations of Data Science, 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.

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)*.