Kianté Brantley | Curriculum Vitae

(Last updated: August 23, 2024)

Harvard University
School of Engineering and Applied Sciences
150 Western Ave
Allston, MA 02134

Pronouns: he/him/his
Website: xkianteb.github.io
Email: kdbrantley@g.harvard.edu
Github: xkianteb

Research Employment

2024 –	**Assistant Professor**. School of Engineering and Applied Sciences, Harvard University.
2022 – 2024	**Postdoctoral Associate**. Department of Computer Science, Cornell University
	Microsoft Research, Summer Intern.
2021	Microsoft Research, Redmond Host(s): Yizhe Zhang, Michel Galley, Bill Dolan
2020	Microsoft Research, Montréal Host(s): Geoffrey J. Gordon and Soroush Mehri
2019	Microsoft Research, NYC Host(s): Miro Dudík and Hal Daumé III
2018	Microsoft Research, NYC Host(s): Miro Dudík and Hal Daumé III

Education

2016 – 2022	**University of Maryland, College Park**. **Ph.D., Computer Science** (advisor: Hal Daumé III). Thesis title: *Expert-In-The-Loop for Sequential Decisions and Predictions*.
2018 – 2022	**New York University**. Visiting Researcher, Computer Science (host: Kyunghyun Cho).
2015 – 2016	**University of Maryland, Baltimore County**. **M.Sc. Computer Science** (adivsor: Tim Oates). Thesis title: *BCAP: A Pruning Technique to Reduce Overfitting*.
2013 – 2015	**University of Maryland, Baltimore County**. **B.Sc. Computer Science**. Minor in Mathematics.
2011 – 2013	**The Community College of Baltimore County**. **A.A. Computer Science and A.A. Mathematics**. Minor in Mathematics.

Research Publications

Thesis

1. **Brantley, K.** *Expert-in-the-Loop for Sequential Decisions and Predictions* PhD thesis (University of Maryland, College Park, 2021).

2. **Brantley, K.** *BCAP: An Artificial Neural Network Pruning Technique to Reduce Overfitting* MA thesis (University of Maryland, Baltimore County, 2016).

Conference Papers

1. **Brantley, K.,** Fang, Z., Dean, S., Joachims, T., *Ranking with Long-Term Constraints* in *Proceedings of the ACM International Conference on Web Search and Data Mining (WSDM)* (2024), 47–56.

2. Chang, J. D., Sreenivas, D., Huang, Y., **Brantley, K.,** Sun, W., *Adversarial Imitation Learning via Boosting* in *The International Conference on Learning Representations (ICLR)* (2024).

3. Phan, M., **Brantley, K.,** Milani, S., Mehri, S., Swamy, G., Gordon, G. J., *When is Transfer Learning Possible?* in *Proceedings of the International Conference on Machine Learning (ICML)* (2024).

4. Tucker, A. D., **Brantley, K.,** Cahall, A., Joachims, T., *Coactive Learning for Large Language Models using Implicit User Feedback* in *Proceedings of the International Conference on Machine Learning (ICML)* (2024).

5. Faltings, F., Galley, M., **Brantley, K.,** Peng, B., Cai, W., Zhang, Y., Gao, J., Dolan, W. B., *Interactive Text Generation* in *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)* (2023), 4450–4468.

6. Ramamurthy, R., Ammanabrolu, P., **Brantley, K.,** Hessel, J., Sifa, R., Bauckhage, C., Hajishirzi, H., Choi, Y., *Is Reinforcement Learning (Not) for Natural Language Processing: Benchmarks, Baselines, and Building Blocks for Natural Language Policy Optimization* in *The International Conference on Learning Representations (ICLR)* Spotlight (2023).

7. Wu, A., **Brantley, K.,** Kojima, N., Artzi, Y., *lilGym: Natural Language Visual Reasoning with Reinforcement Learning* in *Proceedings of the Conference of the Association for Computational Linguistics (ACL)* (2023).

8. **Brantley, K.,** Mehri, S., Gordon, G. J., *Successor feature sets: Generalizing successor representations across policies* in *Proceedings of the National Conference on Artificial Intelligence (AAAI)* **35** (2021), 11774–11781.

9. **Brantley, K.,** Dudik, M., Lykouris, T., Miryoosefi, S., Simchowitz, M., Slivkins, A., Sun, W., *Constrained episodic reinforcement learning in concave-convex and knapsack settings* in *Advances in Neural Information Processing Systems (NeurIPS)* **33** (2020), 16315–16326.

10. **Brantley, K.,** Sharaf, A., Daumé III, H., *Active Imitation Learning with Noisy Guidance* in *Proceedings of the Conference of the Association for Computational Linguistics (ACL)* (2020), 2093–2105.

11. **Brantley, K.,** Sun, W., Henaff, M., *Disagreement-regularized imitation learning* in *The International Conference on Learning Representations (ICLR)* Spotlight (2019).

12. Miryoosefi, S., **Brantley, K.,** Daumé III, H., Dudik, M., Schapire, R. E., *Reinforcement learning with convex constraints* in *Advances in Neural Information Processing Systems (NeurIPS)* **32** (2019).

13. Welleck, S., **Brantley, K.,** Iii, H. D., Cho, K., *Non-monotonic sequential text generation* in *Proceedings of the International Conference on Machine Learning (ICML)* (2019), 6716–6726.

Workshop Papers

1. Chang, J., **Brantley, K.,** Ramamurthy, R., Misra, D., *Learning to Generate Better Than Your LLM* in *NeurIPS 2023 Workshop on Instruction Tuning and Instruction Following* (2023).

2. Gao, G., Chang, J. D., Cardie, C., **Brantley, K.,** Joachims, T., *Policy-Gradient Training of Language Models for Ranking* in *NeurIPS 2023 Workshop Foundation Models for Decision Making Workshop* (2023).

3. Sharaf, A., Feng, S., Nguyen, K., **Brantley, K.,** Daumé III, H., *The UMD Neural Machine Translation Systems at WMT17 Bandit Learning Task* in *Proceedings of the Second Conference on Machine Translation* (2017), 667–673.

4. Ganesan, A., **Brantley, K.,** Pan, S., Chen, J., *Ldaexplore: Visualizing topic models generated using latent dirichlet allocation* in *extvis Workshop - Intelligent User Interfaces (IUI)* (2015).

Preprint Papers

1. Chang, J. D., Shan, W., Oertell, O., **Brantley, K.,** Misra, D., Lee, J. D., Sun, W., *Dataset Reset Policy Optimization for RLHF* in *Preprint* (2024).

2. Gao, Z., **Brantley, K.,** Joachims, T., *Reviewer2: Optimizing Review Generation Through Prompt Generation* in *Preprint* (2024).

3. Gao, Z., Chang, J. D., Zhan, W., Oertell, O., Swamy, G., **Brantley, K.,** Joachims, T., Bagnell, J. A., Lee, J. D., Sun, W., *REBEL: Reinforcement Learning via Regressing Relative Rewards* in *Preprint* (2024).

4. Oertell, O., Chang, J. D., Zhang, Y., **Brantley, K.,** Sun, W., *RL for Consistency Models: Faster Reward Guided Text-to-Image Generation* in *Preprint* (2024).

5. Wu, A., **Brantley, K.,** Artzi, Y., *A Surprising Failure? Multimodal LLMs and the NLVR Challenge* in *Preprint* (2024).

Fellowships

2022 – 2024 **Computing Research Association (CRA) Computing Innovation**
NSF Computing and Information Science and Engineering (CISE)
Role: Postdoctoral Associate
$255k

2021 **Ann G. Wylie Dissertation Fellowship**
Graduate School's Semester Dissertation Fellowship
Role: Graduate Fellow
$15k

2020 **Microsoft Dissertation Research Grant**
Role: Graduate Fellow
$25k

2018 – 2020 **ACM SIGHPC/Intel Computational and Data Science Fellowships**
Role: Graduate Fellow
$30k

2017 – 2020 **Sloan Research Fellowship**
Role: Graduate Fellow
$15k

2016 – 2018 **Louis Stokes Alliance for Minority Participation Bridge to the Doctorate Program (LSAMP BD) Fellowship**
NSF Standard Grant
Role: Graduate Fellow
$80k

2016 – 2018 **University of Maryland College Park Dean's Fellowship**
Role: Graduate Fellow
$5k

2015 **Department of Defense Graduate Fellowship**
Role: Graduate Fellow
$40k

Honors and Awards

2021 **Spotlight talk**, Empirical Methods in Natural Language Processing

2021 **Spotlight talk**, International Conference on Learning Representations

2021 **Spotlight talk**, International Conference on Learning Representations

2021 **2nd place, The New York Academy of Sciences Star Talks**

2013 – 2015 **Transfer-Scholarships in Information Technology and Engineering (T-SITE) Scholar**

2013 – 2015 **Maryland Senators and Delegates Scholarship**

2013 – 2015 **Transfer Student Alliance Scholarship**

2013 – 2015 **Howard P. Rawlings Educational Assistance Grant**

2013 **CCBC Foundation General Scholarship**

Service and Outreach

Area Chair

2023 **Empirical Methods in Natural Language Processing**

Service and Outreach (continued)

Program Chair

2023	Special Interest Group on Information Retrieval
2023	ICML Workshop Spurious correlations, Invariance, and Stability
2023	Special Interest Group on Information Retrieval
2022 – 2023	International Conference on Learning Representations
2022 – 2023	European Workshop on Reinforcement Learning
2020	Empirical Methods in Natural Language Processing 2020
2020 – 2023	Conference on Neural Information Processing Systems
2020 – 2023	European Chapter of the Association for Computational Linguistics
2020 – 2021, 2023	Annual Conference of the Association for Computational Linguistics
2019 – 2021, 2023	International Conference on Machine Learning
2019 – 2021, 2023	Tapia Conference Scholarship Reviewer
2019	Black in Ai Admission

Workshops

2021 – 2022	Co-chair, Interactive Learning for NLP workshop @ ACL and Neurips
2021 – 2022	Co-chair, NYU AI Winter School for underrepresented groups
2021	Co-chair, Black in Ai at AAAI

Co-curricular

2023	Participated, Cornell NextGen Professor
2022	Volunteered, Ithaca College Central NY LSAMP symposium
2022	Volunteered, WiNLP Panel at NAACL
2022	Volunteered, UMD Doctoral Career Pathways
2020	Participated, CMD-IT Academic Careers Workshop
2020	Volunteered, Bitview (teaching high schoolers computer science)
2020	Volunteered, Industry Mentor UMBC CWIT
2017	Volunteered, Maryland Institute for Minority Achievement and Urban Education College/Career Conference
2015 – 2017	Volunteered, MSDE CTE/PLTW Conference Student Panel
2013 – 2016	Volunteered, Western Tech High Open house

Invited Talks

Brantley, K. *Learning from Interaction* Northeastern. 2024.

Brantley, K. *Learning from Interaction* George Washington University. 2024.

Brantley, K. *Learning from Interaction* Emory University. 2024.

Brantley, K. *Learning from Interaction* Stony Brook University. 2024.

Brantley, K. *Learning from Interaction* Columbia University. 2024.

Brantley, K. *Learning from Interaction* Rice University. 2024.

Brantley, K. *Learning from Interaction* Harvard University. 2024.

Brantley, K. *Learning from Interaction* Rutgers University. 2024.

Brantley, K. *Learning from Interaction* Princeton University. 2024.

Brantley, K. *Learning from Interaction* Microsoft Research - NYC. 2024.

Brantley, K. *Learning from Interaction* University of Michigan. 2024.

Brantley, K. *Learning from Interaction* University of Illinous Chicag. 2024.

Brantley, K. *Expert-in-the-Loop for Sequential Decisions and Predictions* Cornell NLP Seminar. 2023.

Brantley, K. *Expert-in-the-Loop for Sequential Decisions and Predictions* Google Brain Montreal. 2023.

Brantley, K. *Ranking with Long Term Constraints* Wayfair. 2023.

Brantley, K. *Reinforcement Learning from Guided Feedback: Addressing the Shortcoming of RL in NLP* Rochester Institute of Technology. 2023.

Brantley, K. *Reinforcement Learning from Guided Feedback: Addressing the Shortcoming of RL in NLP* NC State University. 2023.

Brantley, K. *Expert-in-the-Loop for Sequential Decisions and Predictions* University of Maryland UMIACS. 2021.

Brantley, K. *Successor feature sets: Generalizing successor representations across policies* Microsoft Research Summit. 2021.

Brantley, K. *Active Imitation Learning with Noisy Guidance* The New York Academy of Sciences. 2020.

Brantley, K. *Learning through interaction with experts* Adobe Research. 2020.

Brantley, K. *Non-monotonic sequential text generation* Black in AI Workshop at ACL. 2020.

Teaching Experience

Course Instructor

2020 Bitview (teaching high students computer science)

Teaching Assistant

2019 Computational Linguistics 1

Miscellaneous Experience

Certifications

2013 **Object-Oriented Programming Certificate Community College of Baltimore County** . The certificate is designed for career programmers who wish to add programming language to their skills.

Technical Reports

2017 **Brantley, K.**, Li, J., Guo, F. A Study of Deep Reinforcement Learning for Sentence Compression

2017 Sharaf, A., **Brantly, K.**, Saadatpanah, P., Shafahi, A.. Recurrent Neural Network for Sequence-to-Sequence Reinforcement Learning

2017 **Brantly, K.**, Suarau, B., Mosgin, S. Experimental Comparison of Density-Based Spatial Clustering of Applications with Noise (DBSCAN) using k-d Trees vs. using VP Trees

2015 **Brantly, K.** Suarau, B. Comparing the effect of compression using PCA and DAE on classifier performance in predicting Epileptic Seizures from EEG data

Non-Research Employment

2010 – 2017 **US Department of Defense, Data Scientist**.
Former Positions:
– Cyber Data Analyst:
– DevOps Engineer
– Software Engineer, Distributed Dataflow
– Software Engineer, Testing Engineer
– Software Engineer, Hadoop Engineer
– High School Work-Study, Summer Internship

Non-Research Employment (continued)

2010	**Social Security Administration, Summer Intern.**
2010	**Baltimore Convention Center, Waiter**
2010	**McDonald, Cashier**
2007 – 2009	**Green House Cage, Prep Cook**

References

Available on Request