

Emily Denton

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EDUCATION

2013 – 2018	PhD, Computer Science , Courant Institute, New York University
2008 – 2013	BSc, Computer Science and Cognitive Science , University of Toronto

RESEARCH AND PROFESSIONAL EXPERIENCE

Dec 2018 – present	Research Scientist , Responsible AI, Google
June – Sept 2017	Research Intern , DeepMind
June – Sept 2016	Research Intern , Facebook AI Research
2015	
2014	
2011 – 2012	Informatics Researcher , Structural Genomics Consortium
May – Sept 2011	Undergraduate researcher , University of Toronto

FELLOWSHIPS & AWARDS

2018	NYU Courant Janet Fabri Prize for Outstanding Dissertation
2018	NYU Courant Institute Sandra Bleistein Prize
2016 – 2018	Google PhD Fellowship
2016	NYU Courant Institute Paul Garabedian Fellowship
2016	NYU Courant Institute Jacob T. Schwartz Ph.D. Fellowship
2015 – 2017	NSERC Postgraduate Scholarship - Doctoral
2013 – 2018	NYU MacCracken Fellowship
2013 – 2014	NSERC Postgraduate Scholarship - Masters
2011	NSERC Undergraduate Student Research Award
2010, 2011	University of Toronto Fraser Crawford Scholarship

PUBLICATIONS

- 2022 C. Saharia, W. Chan, S. Saxena, L. Li, Jay Whang, **E. Denton**, S. Ghasemipour, B. Ayan, S. Mahdavi, R. Gontijo Lopes, T. Salimans, J. Ho, D. Fleet, M. Norouzi. "Photorealistic Text-to-Image Diffusion Models with Deep Language Understanding." *Advances in Neural Information Processing Systems (NeurIPS)*.
- M. Díaz, I. Kivlichan, R. Rosen, D. Baker, R. Amironesei, V. Prabhakaran, **E. Denton**. "Crowdworksheets: Accounting for individual and collective identities underlying crowdsourced dataset annotation." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT*)*.
- 2021 A. Paullada, D. Raji, E. Bender, **E. Denton**, A. Hanna. "Data and its (dis)contents: A survey of dataset development and use in machine learning research." *Patterns 2 (11)*.
- B. Koch, **E. Denton**, A. Hanna, J. Foster. "Reduced, Reused and Recycled: The Life of a Dataset in Machine Learning Research." *Advances in Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks track. Best paper award winner*.
- R. Srinivasan, **E. Denton**, J. Famularo, N. Rostamzadeh, F. Diaz, B. Coleman. "Artsheets for Art Datasets." *Advances in Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks track*.
- I Raji, E. Bender, A. Paullada, **E. Denton**, A. Hanna. "AI and the Everything in the Whole Wide World Benchmark." *Advances in Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks track*.
- E. Denton***, M Díaz*, I. Kivlichan*, V Prabhakaran*, R. Rosen*. "Whose Ground Truth? Accounting for Individual and Collective Identities Underlying Dataset Annotation." *Proceedings of NeurIPS 2021 Workshop on Data-Centric AI*.
- E. Denton***, A. Hanna*, R. Amironesei*, A. Smart, H. Nicole. "On the Genealogy of Machine Learning Datasets: A Critical History of ImageNet." *Big Data & Society*.
- M. Scheuerman, **E. Denton**, A. Hanna. "Do Datasets Have Politics? Disciplinary Values in Computer Vision Dataset Development." *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*.
- 2020 B. Hutchinson, A. Smart, A. Hanna, **E. Denton**, C. Greer, O. Kjartansson, P. Barnes, M. Mitchell. "Towards Accountability for Machine Learning Datasets: Practices from Software Engineering and Infrastructure." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT*)*.

A. Paullada, D. Raji, E. Bender, **E. Denton**, A. Hanna. "Data and its (dis)contents: A survey of dataset development and use in machine learning research." *NeurIPS Workshop on Machine Learning Retrospectives, Surveys, and Meta-analyses*.

D. Raji, A. Paullada, E. Bender, **E. Denton**, A. Hanna. "AI and the everything in the whole wide world benchmark." *NeurIPS Workshop on Machine Learning Retrospectives, Surveys, and Meta-analyses*.

A. Hanna, **E. Denton**, R. Amironesei, A. Smart, H. Nicole. "Lines of Sight." *Logic Magazine: Commons*.

E. Denton, A. Hanna, R. Amironesei, A. Smart, H. Nicole, M. Scheuerman. "Bringing the People Back In: Contesting Benchmark Machine Learning Datasets." *ICML Workshop on Participatory Approaches to Machine Learning*.

B. Hutchinson, V. Prabhakaran, **E. Denton**, K. Webster, Y. Zhong, S. Denuyl. "Social Biases in NLP Models as Barriers for Persons with Disabilities." *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (ACL)*.

E. Denton., H. Srinivasan, D. Baker, J. Chen, A. Beutel, T. Doshi, E. Chi. "Learning to diversify from human judgments: research directions and open challenges." *Fair & Responsible AI Workshop @ CHI2020*.

M. Mitchell, D. Baker, N. Moorosi, **E. Denton**, B. Hutchinson, A. Hanna, T. Gebru, J. Morgenstern. "Diversity and Inclusion Metrics in Subset Selection." *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society*.

I. Raji, T. Gebru, M. Mitchell, J. Buolamwini, J. Lee, **E. Denton**. "Saving Face: Investigating the Ethical Concerns of Facial Recognition Auditing." *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society*.

A. Hanna, **E. Denton**, A. Smart, J. Smith-Loud. "Towards a Critical Race Methodology in Algorithmic Fairness." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT*)*.

2019 B. Hutchinson, V. Prabhakaran, **E. Denton**, K. Webster, Y. Zhong, S.C. Denuyl. "Unintended Machine Learning Biases as Social Barriers for Persons with Disabilities." *AI Fairness for People with Disabilities at ASSETS*.

E. Denton, B. Hutchinson, M. Mitchell, T. Gebru. "Detecting Bias with Generative Counterfactual Face Attribute Augmentation." *Workshop on Fairness Accountability Transparency and Ethics in Computer Vision at CVPR*.

- 2018 S. Sukhbaatar S, **E. Denton**, A. Szlam, R. Fergus. "Learning Goal Embeddings via Self-Play for Hierarchical Reinforcement Learning." *Deep RL Workshop at NeurIPS, 2018*.
- E. Denton**, R. Fergus. "Stochastic Video Generation with a Learned Prior." *International Conference on Machine Learning (ICML)*.
- R. Raileanu, **E. Denton**, A. Szlam, R. Fergus. "Modeling Others using Oneself in Multi-Agent Reinforcement Learning." *International Conference on Machine Learning (ICML)*.
- 2017 **E. Denton**, V. Birodkar. "Unsupervised Learning of Disentangled Representations from Video." *Advances in Neural Information Processing Systems (NeurIPS)*.
- 2016 **E. Denton**, S. Gross, R. Fergus. "Semi-Supervised Learning with Context-Conditional Generative Adversarial Networks." *WIML Workshop in conjunction with NeurIPS*.
- 2015 **E. Denton**, S. Chintala, A. Szlam, R. Fergus. "Deep Generative Image Models using a Laplacian Pyramid of Generative Adversarial Networks." *Advances in Neural Information Processing Systems (NeurIPS)*.
- E. Denton**, J. Weston, M. Paluri, L. Bourdev, R. Fergus. "User Conditional Hashtag Prediction for Images." Conference on Knowledge Discovery and Data Mining, 2015.
- 2014 **E. Denton**, W. Zaremba, J. Bruna, Y. LeCun, R. Fergus. "Exploiting Linear Structure Within Convolutional Networks for Efficient Evaluation." *Advances in Neural Information Processing Systems (NeurIPS)*.
- M.A. Shah, **E. Denton**, C.H. Arrowsmith, M. Lupien, M. Schapira. "A global assessment of cancer genomic alterations in epigenetic mechanisms." *Epigenetics & Chromatin* 7 (1), 29.
- 2013 M.A. Shah, **E. Denton**, L. Liu, M. Schapira. "ChromoHub V2: cancer genomics." *Bioinformatics*.
- 2012 L. Liu, X.T. Zhen, **E. Denton**, B.D. Marsden, M. Schapira. "ChromoHub: a data hub for navigators of chromatin-mediated signalling." *Bioinformatics*.

SERVICE

Paper reviewing:

International Conference on Machine Learning
International Conference on Learning Representations
Neural Information Processing Systems
AAAI Conference on Artificial Intelligence
Transactions on Pattern Analysis and Machine Intelligence
Neural Computation
Computer Vision and Pattern Recognition
Empirical Methods in Natural Language Processing
Patterns
AI & Society
CHI

Mentorship:

OpenAI Scholars, 2019
Out in Tech, 2018-present

Tutorial & workshop organizing:

2022 Workshop on *Ethical Considerations in Creative Applications of Computer Vision*, CVPR.
2021 Tutorial on *Beyond Fairness: Towards a Just, Equitable, and Accountable Machine Learning*, NeurIPS.
2021 Workshop on *Beyond Fairness: Towards a Just, Equitable, and Accountable Computer Vision*, CVPR.
2021 Workshop on *Ethical Considerations in Creative Applications of Computer Vision*, CVPR.
2021 Tutorial on *Fairness, Accountability, Transparency and Ethics in Computer Vision*, CVPR.
2021 *Genealogies of Data Junior Scholars Workshop*.
2020 Tutorial on *Fairness, Accountability, Transparency and Ethics in Computer Vision*, CVPR.
2020 *Algorithmically Encoded Bodies*, CRAFT Workshop, FA(cc)T*.
2020 *CtrlZ.AI Zine Fair* in conjunction with FA(cc)T*.
2017 *Learning Disentangled Features: from Perception to Control*, NIPS.
2016 *Deep Learning* workshop, ICML.