Remi Denton

Staff Research Scientist
Technology, AI, Society, & Culture (TASC), Google
dentone@google.com
cephaloponderer.com

Education

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

Past Research & Professional Experience

2023–	*Staff Research Scientist*, Google
2020–2022	*Senior Research Scientist*, Google
2018–2020	*Research Scientist*, Google
Summer 2017	*Research Intern*, DeepMind
Summer 2016 2015 2014	*Research Intern*, Facebook AI Research
2011–2012	*Informatics Researcher*, Structural Genomics Consortium
Summer 2011	*Undergraduate researcher*, University of Toronto

Fellowships, Awards, & Achievements

2024	*Best Paper Award*, for paper "Learning about Responsible AI On-The-Job: Learning Pathways, Orientations, and Aspirations" published at *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*.

2024   *Best Paper Award*, for paper "Reduced, Reused and Recycled: The Life of a Dataset in Machine Learning Research." published in *Advances in Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks Track.*

2018   *NYU Courant Janet Fabri Prize,* for Outstanding Dissertation

2016–2018   Google PhD Fellowship

2018
2017   *NYU Courant Institute Sandra Bleistein Prize,* for notable achievement in applied mathematics or computer science.

2016   *NYU Courant Institute Paul Garabedian Fellowship*, for outstanding performance in the Ph.D. program

2015   *NYU Courant Institute Jacob T. Schwartz Ph.D. Fellowship*, for outstanding performance in the Ph.D. program

2015–2017   NSERC Postgraduate Scholarship - Doctoral

2011   NSERC Undergraduate Student Research Award

Publications

Peer-Reviewed Journal

2023   J. Famularo, **R. Denton.** "Memory Institutions Meet AI: Lessons from Critical Technology Discourse." *International Journal for Digital Art History.*

2021   **R. Denton***, A. Hanna*, R. Amironesei*, A. Smart, H. Nicole. "On the Genealogy of Machine Learning Datasets: A Critical History of ImageNet." *Big Data & Society*.

A. Paullada, D. Raji, E. Bender, **R. Denton**, A. Hanna. "Data and its (dis)contents: A survey of dataset development and use in machine learning research." *Patterns 2 (11).*

2014   M.A. Shah, **R. 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, **R. Denton,** L. Liu, M. Schapira. "ChromoHub V2: cancer genomics." *Bioinformatics*.

2012   L. Liu, X.T Zhen, **R. Denton**, B.D. Marsden, M. Schapira. "ChromoHub: a data hub for navigators of chromatin-mediated signalling." *Bioinformatics*.

Peer-Reviewed Conference Proceedings

2024   A. Jha, V. Prabhakaran, **R. Denton**, S. Laszlo, S. Dave, R. Qadri, C. Reddy, S. Dev. "ViSAGe: A Global-Scale Analysis of Visual Stereotypes in Text-to-Image Generation." *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL).*

M. Madaio, S. Kapania, R. Qadri, D. Wang, A. Zaldivar, **R. Denton**, L. Wilcox. "Learning about Responsible AI On-The-Job: Learning Pathways, Orientations, and Aspirations." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT). Best paper award winner.*

K. A. Mack, R. Qadri, **R. Denton**, S. K. Kane, C. L. Bennett. "'They only care to show us the wheelchair': disability representation in text-to-image AI models." *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI).*

M. Díaz, S. Dev, E. Reif, **R. Denton**, V. Prabhakaran. "SoUnD Framework: Analyzing (So)cial Representation in (Unstructured (D)ata." *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES).*

2023   E. Corbett, **R. Denton**, S Erete. "Power and public participation in AI." *Proceedings of the 3rd ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO).*

E. Corbett, **R. Denton**. "Interrogating the T in FAccT." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT).*

R. Qadri, R. Shelby, C. Bennett, **R. Denton**. "AI's regimes of representation: A community-centered study of text-to-image models in South Asia." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT).*

V. Gadiraju, S. Kane, S. Dev, A. Taylor, D. Wang, **R. Denton***, R. Brewer*. "'I wouldn't say offensive but...': Disability-Centered Perspectives on Large Language Models." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT).*

M. K. Scheuerman, K. Weathington, T. Mugunthan, **R. Denton**, C. Fiesler. "From human to data to dataset: mapping the traceability of human subjects in computer vision datasets." *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW).*

2022   C. Saharia, W. Chan, S. Saxena, L. Li, Jay Whang, R. 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, R. Denton. "Crowdworksheets: Accounting for individual and collective identities underlying crowdsourced dataset annotation." *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT*).*

2021   B. Koch, **R. 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, **R. 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, **R. Denton**, A. Hanna. "AI and the Everything in the Whole Wide World Benchmark." *Advances in Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks Track.*

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

B. Hutchinson, A. Smart, A. Hanna, **R. 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*).*

M. Mitchell, D. Baker, N. Moorosi, **R. 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 (AIES).*

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

2018   R. Denton, R. Fergus. "Stochastic Video Generation with a Learned Prior." International Conference on Machine Learning (ICML).

R. Raileanu, **R. Denton**, A Szlam, R. Fergus. "Modeling Others using Oneself in Multi-Agent Reinforcement Learning." International Conference on Machine Learning (ICML).

2017   **R. Denton**, V. Birodkar. "Unsupervised Learning of Disentangled Representations from Video." *Advances in Neural Information Processing Systems (NeurIPS).*

2015   **R. 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).*

R. Denton, J. Weston, M. Paluri, L. Bourdev, R. Fergus. "User Conditional Hashtag Prediction for Images." *Conference on Knowledge Discovery and Data Mining (KDD).*

2014 **R. 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).*

Peer Reviewed Workshop Proceedings

2021 **R. 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.*

2020 **R. Denton**., H. Srinivasan, D. Baker, J. Chen, A. Beutel, T. Doshi, E. Chi. "Learning to diversify from human judgments: research directions and open challenges." *CHI Workshop on Fair & Responsible AI.*

R. 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.*

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

2019 **R. 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.*

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

2018   S. Sukhbaatar S, R. Denton, A. Szlam, R. Fergus. "Learning Goal Embeddings via Self-Play for Hierarchical Reinforcement Learning." Deep RL Workshop at NeurIPS, 2018.

2016   R. Denton, S. Gross, R. Fergus. "Semi-Supervised Learning with Context-Conditional Generative Adversarial Networks." WIML Workshop in conjunction with NeurIPS.

Blogs & Media

2024 R. Qadri, R. Shelby, C. Bennett, **R. Denton**. "AI's Regimes of Representation: A Community-Centered Study of Text-to-Image Models in South Asia." *MIT Schwarzman*

College of Computing Case Study.

2021 M. Diaz, **R. Denton**. "A Dataset Exploration Case Study with Know Your Data." *Google Research Blog.*

2020 A. Hanna, **R. Denton**, R. Amironesei, A. Smart, H. Nicole. "Lines of Sight." *Logic Magazine: Commons.*

Teaching

University Course Guest Lectures

2022 CS-503: Visual intelligence:machines and minds. Swiss Federal Institute of Technology Lausanne (EPFL). Prof. Zamir Amir.

2021 CS 1699: AI for Good: Ethics and Implications. University of Pittsburgh, Prof. Malihe Alikhani.

HONC 390: Intro to Data Ethics. University of San Francisco (USF), Prof. Razvan A. Amironesei.

LING-UA 52: Machine Learning for Language Understanding. New York University (NYU). Prof. Sam Bowman.

DS-GA 1012: Natural Language Understanding and Computational Semantics. New York University (NYU). Prof. Sam Bowman.

CS 4803 / 7643: Deep Learning. Georgia Tech. Prof. Dhruv Batra.

2020 CS231n: Convolutional Neural Networks for Visual Recognition. Stanford. Prof. Fei-Fei Li.

Short Courses

2022 New York University (NYU) AI School lecturer for the "Fairness and Transparency" module.

2021 Neuromatch Academy Deep Learning lecturer for the "Data Ethics" module.

2020 New York University (NYU) "Big Ideas in Artificial Intelligence" lecturer for the "Data ethics and algorithmic fairness" module.

2019 Berkeley Deep Learning for Science School lecturer for two modules: "Responsible AI" and "Generative Models."

Academic Tutorials	2024	"Not Just Metrics: Qualitative Evaluations for Geo-Cultural Representation in Generative AI Technologies," at *ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT).*
	2021	"Beyond Fairness in Machine Learning," at *Advances in Neural Information Processing Systems (NeurIPS).*
		"Fairness, Accountability, Transparency, and Ethics in Computer Vision," at *Conference on Computer Vision and Pattern Recognition (CVPR).*
	2020	"Fairness, Accountability, Transparency, and Ethics in Computer Vision," at *Conference on Computer Vision and Pattern Recognition (CVPR).*

Academic Service

Program Chairing	2023	*Datasets and Benchmark Track Chair*, Advances in Neural Information Processing Systems (NeurIPS)
	2022	*Communications Chair* Advances in Neural Information Processing Systems (NeurIPS), 2022.
Area Chairing		ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)
		Advances in Neural Information Processing Systems (NeurIPS
Conference and Journal 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