

# Curriculum Vitae - Dr. Sara Beery

---

Address: 32 Vassar St, Cambridge, MA, 02139  
Phone: +1 (206) 853 9970  
Email: [beery@mit.edu](mailto:beery@mit.edu)  
Webpage: [beerys.github.io](https://beerys.github.io)

## Academic Qualifications

---

- 2016 - 2023    Doctorate of Philosophy in Computing and Mathematical Sciences  
                  **California Institute of Technology**, Pasadena, CA  
                  Advisor: Pietro Perona | Computational Vision Lab  
                  Committee: Yisong Yue (chair), Pietro Perona, Serge Belongie, Katie Bouman
- 2012 - 2016    Bachelor of Science in Electrical Engineering  
                  Bachelor of Science in Mathematics  
                  **Seattle University**, Seattle, WA  
                  Computer Engineering and Applied Mathematics Specializations  
                  Computer Science Minor

## Career History

---

- 2023 - Present    Assistant Professor in AI & Decision Making  
                  **Massachusetts Institute of Technology**, Cambridge, MA  
                  Academic Unit: Electrical Engineering and Computer Science  
                  Research Unit: Computer Science & Artificial Intelligence Laboratory  
                  PI at the Woods Hole Oceanographic Institution
- 2022 - 2023    Visiting Faculty Researcher
- 2019 - 2022    Student Researcher  
                  **Google Research**, Mountain View, CA
- 2018    Research Intern  
          **Microsoft Research**, Redmond, WA
- 2016    Research Intern  
          **Lincoln Laboratory**, Redmond, WA
- 2015    Machine Automation Engineering Co-Op
- 2014    Electronic Hardware Design Intern  
          **John Deere**, Des Moines, IA

## Fellowships, Scholarships, Awards, and Honors

---

- 2022 Caltech Amori Doctoral Prize
- 2021 Caltech Resnick Sustainability Institute Graduate Scholar  
Caltech Engineering and Applied Science Division DEI New Horizons Award  
Caltech Computing and Mathematical Sciences Gradient for Change DEI Award  
University of Chicago Center for Data and Computing Rising Star in Data Science
- 2020-21 Amazon AI4Science Fellowship  
PIMCO Fellowship in Data Science
- 2016-20 National Science Foundation Graduate Research Fellowship
- 2015-16 Center for Environmental Justice and Sustainability Research Fellowship  
SWE Wanda Munn Scholarship  
American Women in Science Scholarship  
Seattle University Bannan Scholarship
- 2015 Mathematical Contest in Modeling Honorable Mention
- 2014-15 General Electric Women's Network Scholarship  
American Women in Science Scholarship  
Seattle University Bannan Scholarship

## Publications and Patents

---

(\*denotes co-first authorship)

### **Peer-Reviewed Conference and Journal Publications**

Berger-Wolf, Beery, Rolnick, Kitzes, Thau, Tuia, Rubenstein (2023). Sustainable, trustworthy, human-technology partnership, in A landmark environmental law looks ahead. *Science* 382, 1348-1355. DOI:10.1126/science.adn3245

Chen, Hu, Coker, Berumen, Costelloe, Beery, Rohrbach, Elhoseiny (2023). MammalNet: A Large-scale Video Benchmark for Mammal Recognition and Behavior Understanding. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*.

Kay, Kulits, Stathatos, Deng, Young, **Beery**, Van Horn, Perona (2022). The Caltech Fish Counting Dataset: A Benchmark for Multiple-Object Tracking and Counting. In *Proceedings of the IEEE/CVF European Conference on Computer Vision*.

**Beery**, Wu, Edwards, Pavetic, Majewski, Mukherjee, Chan, Morgan, Rathod, Huang (2022), The Auto Arborist Dataset: A Large-Scale Benchmark for Multimodal Urban Forest Monitoring Under Domain Shift. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*.

Sagawa, Koh, Lee, Gao, Xie, Shen, Kumar, Hu, Yasunaga, Marklund, **Beery**, David, Stavness, Guo, Leskovec, Saenko, Hashimoto, Levine, Finn, Liang (2022). Extending the WILDS Benchmark for Unsupervised Adaptation. In *Proceedings of the International Conference on Machine Learning*. (Oral).

Tuia\*, Kellenberger\*, **Beery\***, Costelloe\*, Zuffi, Risse, Mathis, Mathis, Langvelde, Burghardt, Kays, Klink, Wikelski, Couzin, van Horn, Crofoot, Stewart, Berger-Wolf (2022). Perspectives in Machine Learning for Wildlife Conservation. *Nature Communications*.

**Beery\***, Cole\*, Winner, Parker, Perona (2021). Species Distribution Modeling for Machine Learning Practitioners: A Review. In *Proceedings of the ACM SIGCAS Conference on Computing and Sustainable Societies*.

Kulits, Wall, Bedetti, Henley, **Beery** (2021). ElephantBook: A Semi-Automated Human-in-the-Loop System for Elephant Re-Identification. In *Proceedings of the ACM SIGCAS Conference on Computing and Sustainable Societies*.

Van Horn, Cole, **Beery**, Wilber, Belongie, Mac Aodha (2021). Benchmarking Representation Learning for Natural World Image Collections. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. (Oral)

Koh, Sagawa, Marklund, Xie, Zhang, Balsubramani, Hu, Yasunaga, Phillips, **Beery**, Leskovec, Kundaje, Pierson, Levine, Finn, Liang (2021). WILDS: A Benchmark of in-the-Wild Distribution Shifts. In

Proceedings of the International Conference on Machine Learning. **(Oral)**

Norouzzadeh, Morris, **Beery**, Joshi, Jojic, Clune. (2021). A deep active learning system for species identification and counting in camera trap images. In *Methods in Ecology and Evolution*. doi:10.1111/2041-210X.13504

**Beery**, Wu, Rathod, Votel, Huang (2020). Context R-CNN: Long Term Temporal Context for Per-Camera Object Detection. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (pp. 13075-13085).

**Beery**, Liu, Morris, Piavis, Kapoor, Joshi, Meister, Perona. (2020). Synthetic examples improve generalization for rare classes. In *The IEEE Winter Conference on Applications of Computer Vision* (pp. 863-873).

**Beery**, Van Horn, Perona. (2018). Recognition in terra incognita. In *Proceedings of the European Conference on Computer Vision (ECCV)* (pp. 456-473).

Miguel, **Beery**, Flores, Klemesrud, Bayrakcismith. (2016). Finding areas of motion in camera trap images. In *2016 IEEE international conference on image processing (ICIP)* (pp. 1334-1338). **(Oral)**

#### Patents

**Beery**, Loukili, Borgstadt, Rich, Kise, Davis. (2016), Methods and apparatus to track a blade, US Patent Application No. US20200217660A1, European Patent Application No. EP3290592A1

#### Invited Articles

**Beery** (2021). Scaling Biodiversity Monitoring for the Data Age. Feature for ACM XRDS Special Issue on Sustainability.

#### Whitepapers/Preprints/Under Review

Rolnick, Aspuru-Guzik, **Beery**, Dilkina, Monti, Ghassemi, Kerner, Monteleoni, Rolf, Tambe, White. Application-Driven Innovation in Machine Learning, 2024.

Lee, Li, **Beery**, Huang, Fei, Yeh, Benes. Tree-D Fusion: 3D Tree Digital Twin Generation from Single Images with Diffusion Priors, 2024.

Kay, Haucke, Stathatos, Deng, Young, Perona, **Beery\***, Van Horn\*. A Unified Framework for Domain Adaptive Object Detection, 2024.

Kuznedeleev, Tabesh, Noorbakhsh, Frantar, **Beery**, Kurtic, Alistarh. TACO: Vision Models Can Be Efficiently Specialized via Few-Shot Task-Aware Compression, 2023.

Xu, Rolf, **Beery**, Bennett, Berger-Wolf, Birch, Bondi-Kelly, Brashares, Chapman, Corso, Davies, Garg, Gaylard, Heilmayr, Kerner, Klemmer, Kumar, Mackey, Monteleoni, Moorcroft, Palmer, Perrault, Thau, Tambe. Reflections from the Workshop on AI-Assisted Decision Making for Conservation, 2023.

Cole, Stathatos, Lütjens, Sharma, Kay, Parham, Kellenberger, **Beery**. Teaching Computer Vision for Ecology, 2023.

Global Partnership on Artificial Intelligence (as an Advisor). Biodiversity Artificial Intelligence, Opportunities and Recommendations. <https://gpai.ai/projects/responsible-ai/environment/biodiversity-and-AI-opportunities-recommendations-for-action.pdf>. 2022.

Das, Bruintjes, Lengyel, van Gemert, **Beery**. Domain Adaptation for Rare Classes Augmented with Synthetic Samples, 2020.

#### Peer-Reviewed Workshop Publications

Kay, Stathatos, Deng, Young, Perona, **Beery**, Van Horn. Unsupervised Domain Adaptation in the Real World: A Case Study in Sonar Video. *CompSust Workshop at NeurIPS 2023 (Oral)*.

Sagawa, Koh, Lee, Gao, Xie, Shen, Kumar, Hu, Yasunaga, Marklund, **Beery**, David, Stavness, Guo, Leskovec, Saenko, Hashimoto, Levine, Finn, Liang. Extending the WILDS Benchmark for Unsupervised Adaptation. DistShift Workshop at NeurIPS 2021.

**Beery**, Agarwal, Cole, Birodkar. The iWildCam 2021 Competition Dataset. The Eighth Fine-Grained Visual Categorization Workshop at CVPR 2021.

**Beery\*** & Bondi\*. Can poachers find animals from public camera trap images?. CV4Animals Workshop at CVPR 2021.

Lanzino & **Beery**. Image-to-Image Translation for Synthetic Samples of Rare Classes. CV4Animals Workshop at CVPR 2021.

Kulits, Pan, Van Horn, **Beery**, Young, Perona. Automated Salmonid Counting in Sonar Data. Climate Change AI Workshop at NeurIPS 2020.

Koh\*, Sagawa\*, Marklund, Xie, Zhang, Balsubramani, Phillips, **Beery**, Kundaje, Pierson, Levine, Finn, Liang. WILDS: A Survey and Benchmark of in-the-Wild Distribution Shifts. Workshop on ML Retrospectives, Surveys & Meta-Analyses at NeurIPS 2020.

**Beery**, Cole, Gjoka. The iWildCam 2020 Competition Dataset. The Seventh Fine-Grained Visual Categorization Workshop at CVPR 2020.

**Beery**, Wu, Rathod, Votel, Huang. Context R-CNN: Long Term Temporal Context for Per-Camera Object Detection. The Women in Computer Vision Workshop at CVPR 2020.

**Beery**, Morris, Yang. Efficient Pipeline for Camera Trap Image Review. Data Mining and AI for Conservation Workshop at Knowledge Discovery and Data (KDD) 2019. **(Selected to be featured in the KDD Earth Day Session.)**

**Beery**, Morris, Perona. The iWildCam 2019 Challenge Dataset. The Sixth Fine-Grained Visual Categorization Workshop at CVPR 2019.

**Beery**, Van Horn, Perona. Recognition for Camera Traps in Unknown Territory. AI for Wildlife Conservation Workshop at the Federated Artificial Intelligence Meeting (FAIM) 2018.

**Beery**, Van Horn, Mac Aodha, Perona. The iWildCam 2018 Challenge Dataset. The Fifth Fine-Grained Visual Categorization Workshop at CVPR 2018.

### **Conference Abstracts**

Kay, Haucke, Stathatos, Deng, Young, Perona, **Beery**, Van Horn. A Unified Framework for Domain Adaptive Object Detection. New England Computer Vision Workshop 2023 (Best Poster Honorable Mention).

Iannarilli, Oliver, Birch, **Beery**, Fegraus, Flores, Kays, Ahumada, Jetz. Wildlife Insights: How Camera Trap Data Can Foster Global Biodiversity Conservation. AGU Fall Meeting 2021.

**Beery**, Wu, Rathod, Votel, Huang. Improving Computer Vision for Camera Traps: Leveraging Practitioner Insight to Build Solutions for Real-World Challenges. Ecological Society of America Meeting 2020.

**Beery**, Wu, Rathod, Votel, Huang. Context R-CNN: Long Term Temporal Context for Per-Camera Object Detection. 4th Annual Digital Data Conference, Integrated Digitized Biocollections (iDigBio) 2020.

**Beery**, Morris, Yang, Simon, Norouzzadeh, Joshi. Efficient pipeline for automating species id in new camera trap projects. Biodiversity Information Science and Standards 2019.

Robertson, Belongie, Hartwig, Kaeser-Chen, Zhang, Tan, Liu, Brulé, Deltheil, Loarie, Van Horn, Mac Aodha, **Beery**, Perona, Copas, Waller. Training machines to identify species using gbif-mediated datasets. Biodiversity Information Science and Standards 2019.

Edwards, **Beery**, Railey. An investigation into bio-inspired sonar search performance. The Journal of the Acoustical Society of America, 2017.

## Invited Talks & Panels

---

### *Monitoring the Urban Forest with Auto Arborist*

- RISE Seminar, 2023
- Keynote at the ImageXD Symposium, 2023
- AI Helps Ukraine Seminar, 2022
- Record.ai Seminar, 2022
- MIT EAPS Seminar, 2022
- Stanford Computer Vision Seminar, 2022
- Cornell Urban AI Seminar, 2022

### *AI and Conservation: Processing ImageData*

- WWF Fuller Seminar, 2023

### *AI & Wildlife Images*

- UCL AI4Environment Seminar, 2023

### *Efficient AI for Wildlife Conservation*

- TinyML Seminar, 2023
- Edge AI Frontiers: Models, Systems and Applications Workshop at AJCAI 2022

### *Pre-training for Environmental Monitoring*

- Pre-training Workshop at ICML 2022

### *Computational Imaging Challenges in Ecological Monitoring*

- Keynote at the International Conference in Computational Photography 2022

### *Open Challenges in Generalizeable Computer Vision for Ecology*

- Session on the Promise of Automated Methods at IntECOL 2022
- Camera Trap Ecology Meets AI Workshop 2022

### *Participatory Human-AI Elephant Population Modeling*

- Seminar at The Wildlife Society Annual Meeting, 2022
- Keynote at the Computer Vision for Animals Workshop at CVPR 2022

### *Towards Animal-Centric AI (Panelist) – Queer in AI Workshop at NeurIPS 2021*

### *Computer Vision for Global-Scale Biodiversity Monitoring - Scaling Geospatial and Taxonomic Coverage Using Contextual Clues*

- AI2ASE Seminar at AAAI, 2023
- AI4Bio Seminar, 2023
- Keynote at US-Africa Frontiers in Science, Engineering in Medicine Session on Biodiversity, 2022
- Harvard University Center for the Environment Seminar, 2022
- DeepLabCut AI Residency Invited Talk, 2022
- EPFL School of Computer & Communication Sciences Seminar, 2022
- ETH Zurich Sustainability Seminar, 2022
- MIT EECS Seminar, 2022
- Caltech Environmental Science and Engineering Seminar, 2022
- UC Berkeley EECS Seminar, 2022
- University of Washington Computer Science & Engineering Seminar, 2022
- Cornell University Computer Science Seminar, 2022
- UCSB PSTATS Seminar, 2022
- UCSB Computer Science & Computer Engineering Joint Seminar, 2022
- The Ohio State University Computer Science & Engineering Seminar, 2022
- University of Melbourne Computer Science Seminar, 2022
- Stevens Institute of Technology Data Science Seminar, 2022
- UCLA Electrical and Computer Engineering Seminar, 2022

- MIT Operations Research Center Seminar on Sustainability and Climate Change, 2022
- University of Sydney Computer Science Seminar, 2022
- Climate Change AI Webinar Series, 2022 (With Dave Thau)
- Max Planck Institute for Intelligent Systems and Cyber Valley Scientific Symposium, 2022
- Georgia Tech Computational Science and Engineering Seminar, 2021
- University of New South Wales Cognitive Robotics Seminar, 2021
- Reed College Computer Science Seminar, 2021
- Berkeley AI + Climate Seminar, 2021
- University of Guelph CARE-AI and Biodiversity Institute Joint Seminar, 2021
- Seminar at Microsoft Research Cambridge, 2020
- Computational Sustainability (CompSust) Doctoral Consortium, 2020

*Beyond Benchmarks - Going from Competition-Winning Methods to Real-World Solutions*

- Keynote at LifeCLEF, 2021
- Queer in AI at ICML, 2021

*AI-Assisted Biodiversity Monitoring*

- Data Science Frontiers Seminar at the African Institute for Mathematical Sciences, 2021
- Leveraging AI to Extend Specimen Networks at iDigBio, 2021
- Princeton AI4All, 2021
- Caltech i-STEM Initiative Panelist, 2021

*Out in Technology and Math (Panelist) – UCSD, 2021*

*Computer Vision for Biodiversity Monitoring and Conservation*

- EPFL Joint Mathis Lab Seminar, 2021
- AI for Mankind, 2021
- Yale Center for Biodiversity and Global Change Seminar, 2020

*Deep Learning & Camera Traps*

- Plenary at Imagineecology Workshop at Le GDR EcoStat, 2020

*Improving Computer Vision for Camera Traps: Leveraging Practitioner Insight to Build Solutions for Real-World Challenges*

- Ecological Society of America Annual Meeting, 2020
- CompSust Open Graduate Seminar, 2020
- Camera Trap Technology Symposium, 2019

*Animal Re-ID from Camera Traps: Can We Deal with Low-Quality Data? – Deep Learning Methods and Applications for Animal Re-Identification at WACV, 2020*

*AI for Camera Traps - Challenges, Best Practices, Benchmarks, and De-Siloing Data*

- World Agroforestry Centre (ICRAF) Seminar, 2020
- WILDLABS Virtual Meetup on Camera Trapping, 2019
- Computer Vision for Wildlife Conservation Workshop at ICCV, 2019

*What's Next in Computer Vision for Wildlife Monitoring (Panelist) – Computer Vision for Wildlife Conservation Workshop at ICCV, 2019*

*Computer Vision for Camera Traps*

- Caltech AI4Science Workshop, 2019
- USC Center for AI in Society Symposium on AI for Conservation, 2019
- Research Seminar at Google Venice, 2019

*An investigation into bio-inspired sonar search performance – NASA-JPL Robotics Seminar, 2017*

*Identifying snow leopards in camera trap images –Seattle U. S.M.A.R.T. Seminar, 2016*

## Funding Awarded

---

Berger-Wolf, T., **Beery, S.**, Rolnick, D., Kitzes, J., Gaynor, K., Taylor, G., Jarzyna, M., Pollock, L. *ABC: AI and Biodiversity Change*, NSF Global Climate Center Grant, awarded September 2023, \$10,000,000

**Beery, S.**, *Automated counting of migrating salmon for conservation and fisheries management in the Pacific Northwest*, MIT J-WAFS Grant, awarded April 2023, \$150,000

**Beery, S.**, Huang, J., Goldman, K., Yu, S. *Learning Fine-grained, Long-tailed Tree Species Segmentation and Phenotyping from Ground and Aerial Imagery*, Google/Berkeley Research Collaboration Grant, awarded August 2022, \$100,000

**Beery, S.**, and Perona, P., *Summer School on Computer Vision Methods for Ecology*, Resnick Sustainability Institute Large-Scale Proposal, Computational costs supported by Microsoft AI for Earth and Amazon AWS, awarded August 2021, \$222,285 + \$180,000 in-kind

Lanzini, E., van Gemert, J., Bruintjes, R., Lengyel, A., and **Beery, S.**, *Using Style Transfer to Improve Realness of Synthetic Camera Trap Images*, Microsoft AI for Earth Grant, awarded December 2020, \$10,000 in-kind

**Beery, S.**, PIMCO Data Science Fellowship, awarded December 2020, \$15,000

**Beery, S.**, Cole, E., and Perona, P., *Automated Ecological Monitoring - Learning from Context*, Resnick Sustainability Institute, awarded October 2020, \$120,000

**Beery, S.**, Amazon AI4Science Fellowship, awarded September 2020, \$20,000

Shippee, T., Cole, E., Rubenstein, D., and **Beery, S.** *Investigating efficient transfer of ML species identification models from nearby regions*. Microsoft AI for Earth Grant, awarded September 2020, \$10,000 in-kind, additional \$10,000 in-kind awarded September 2021.

Kulits, P., Wall, J., Hahn, N., Lefcourt, J., Parham, J., Holmberg, J., Berger-Wolf, T., Stere, T., and **Beery, S.**, *Wildbook for Elephants with the Mara Elephant Project*, Microsoft AI for Earth Grant, awarded May 2020, \$10,000 in-kind

**Beery, S.**, *A Network of 100 Camera Traps to Estimate Grevy's Zebra Population in Comparison to the Great Grevy's Rally*, Google AI for Nature and Society Grant, awarded January 2020, \$15,000 + \$5,000 in-kind

Kulits, P., **Beery, S.**, Van Horn, G., Young, E., and Perona, P. *Automated Salmonid Counting in Sonar Data*, Amazon AWS Grant, awarded July 2019, \$80,000 + \$30,000 in-kind

**Beery, S.**, *The Microsoft MegaDetector - Robust Animal Detection in Global Camera Trap Data*, Microsoft AI for Earth Grant, awarded August 2018, \$10,000 in-kind

**Beery, S.**, National Science Foundation Graduate Research Fellowship, awarded April 2016, \$138,000

## Supervision

---

### PhD Students at MIT

Justin Kay (Sep 2023 - )

Julia Chae (Sep 2023 - )

Timm Haucke (Sep 2023 - )

Edward Vendrow (Sep 2023 - )

Neha Hulkund (Sep 2023 - )

### PhD examiner (external)

Deblina Bhattacharjee - EPFL (2023)

### PhD candidacy examiner (external)

Nina van Thiel - EPFL (2023)

## **Undergrad and Masters Supervision**

Supervised Undergraduate Projects at MIT: 3  
Supervised Masters Projects at MIT: 1  
Supervised Masters projects at TU Delft: 4  
Supervised Undergraduate Projects at Caltech: 4

## **Selected Media**

Mapping Urban Trees Across North America with the Auto Arborist Dataset, Google AI Blog, June 2022

Boosting human and machine expertise with conservation tech: Q&A with Sara Beery, Mongabay, December 2021

Leveraging Temporal Context for Object Detection, Google AI Blog, June 2020

CNNs Catch Animals in the Wild, Communications of the ACM, April 2020

The Big Picture, Caltech Breakthrough Campaign, November 2018

Internships Ahoy! with Kirsten Bray, Wei Dai and Sara Beery, Microsoft Research Podcast, September 2018

## **Academic Service**

### **Advisory Boards and Leadership**

Biodiversity Community Lead, Climate Change AI  
Faculty Advisory Board Member, Ocean Vision AI  
Faculty Advisory Board Member, NSF Ecological Data Science Innovation and Inclusion Lab  
Faculty Advisor, UC Berkeley Eric and Wendy Schmidt Center for Data Science and Environment  
Steering Committee Member, Resnick Sustainability Institute Quantitative Ecology Initiative  
Global Visioneer, XPrize Biodiversity and Conservation

### **Area Chair**

CVPR 2024  
ECCV 2024  
WACV 2024

### **Workshop and Symposium Organizer**

*A Roadmap towards Comprehensive Biodiversity Monitoring at Scale*, ESA 2023 Inspire Session

*The Future of Ecological Monitoring is Collaboration with Artificial Intelligence*, ESA 2023 Oral Session

*The Fine-Grained Visual Categorization Workshop*, CVPR 2018, CVPR 2019, CVPR 2020, CVPR 2021, CVPR 2022, CVPR 2023

*The Computer Vision for Animals Workshop*, CVPR 2022, 2023

*Workshop on Scholars and Big Models*, CVPR 2023

*Community of Practice on Remote Sensing and Machine Learning for Wildlife Surveys* at the U.S. Fish and Wildlife Service Branch of Migratory Bird Surveys, 2020 - Present

*AI for Animal Re-ID Workshop*, WACV 2020

*Visipedia Research Consortium Yearly Meeting*, 2018, 2019, 2020, 2023

### **Program Committees**

DistShift Workshop, NeurIPS 2021  
Fine Grained Visual Categorization Workshop, CVPR 2018, 2019, 2020, 2021, 2022, 2023  
CV4Animals Workshop, CVPR 2021, 2022, 2023  
EarthVision: Large Scale Computer Vision for Remote Sensing Imagery, CVPR 2021, 2022, 2023



Webly-Supervised Fine-Grained Workshop, ACCV 2020  
AI for Social Good Workshop, 2020, Harvard Center for Research on Computation and Society  
Emerging Track on AI for Social Impact, AAAI 2020  
Computer Vision for Wildlife Conservation Workshop, ICCV 2019  
Data Mining and AI for Conservation Workshop, KDD 2019  
AI for Wildlife Conservation Workshop, IJCAI 2018

### **Editing and Grant Reviews**

Guest Editor for Methods in Ecology and Evolution Special Topics on Conservation, Ecology, and Artificial Intelligence  
Guest Editor for the International Journal in Computer Vision (IJCV) Special Topics on Computer Vision for Animals  
Editorial Board Guest Member for AI for Sustainability Special Issue of IEEE Latin America Transactions  
Guest Subject Matter Editor for Ecological Applications  
Meta-Reviewer for the Climate Change AI Innovation Grants Program 2022, 2023  
Reviewer for the Google AI for Social Good Workshop & Grants Program 2022  
Reviewer for the Earth Ranger Conservation Tech Awards 2022

### **Reviewing**

CVPR (**Outstanding Reviewer 2023**), NeurIPS (**Outstanding Reviewer 2021**), ECCV, ICCV, ICLR, ICML, WACV, Special Track on AI for Social Impact at AAAI, ISPRS Journal of Photogrammetry and Remote Sensing, Methods in Ecology and Evolution, Journal of Mammalogy, Mammalian Biology, Ethology, Remote Sensing in Ecology and Conservation, ISPRS Journal of Photogrammetry and Remote Sensing, Ecosphere, Ecological Informatics, PeerJ Computer Science, European Journal of Wildlife Research

### **Diversity, Equity, and Inclusion**

CVPR 2024 DEI Co-chair  
Queer in AI Community Event Organizer, 2021-Present  
Caltech CMS DEI Steering Committee Member, 2020-2022 Founder and Chair, Caltech Graduate Women in CMS, 2016-2020  
Caltech Women Mentoring Women Mentor, 2017-2020

## **Teaching**

### **Courses**

*Advances in Computer Vision* - MIT 6.8300/1: Spring 2024 (580 Students)  
*Deep Learning* - MIT 6.S898: Fall 2023 (180 Students)  
*Summer Workshop on Computer Vision Methods for Ecology* - Caltech Resnick Sustainability Institute Summer 2022 & 2023 (20 students per year)  
Machine Learning Summer School Africa, 2023 (40 students)  
*Advanced Topics in Computer Vision: Conservation and Sustainability* - Caltech EE/CNS/CS 148: Spring 2021 (40 students)

### **Guest Lectures & Tutorials**

*Monitoring the Urban Forest*

- MIT 6.8300/6.8301: Advances in Computer Vision, 2023

*Participatory Human-AI Elephant Population Monitoring - A Case Study in the Greater Mara Ecosystem*

- Stanford CS231N: Deep Learning for Computer Vision, 2023

*Computer Vision for Global Scale Biodiversity Monitoring*

- McGill University COMP-767: Machine Learning Applied to Climate Change, 2023
- Carnegie Mellon University Course 17737: AI Methods for Social Good, 2023
- University of North Carolina Chapel Hill COMP 776/590: Computer Vision, 2023
- MIT 6.034: Intro to AI, 2022
- Caltech

*Towards global-scale biodiversity monitoring: scaling geospatial and taxonomic coverage*

- HumaniTech, Georgia Tech VIP-4601 VVS, 2020
- GaTech4Wildlife, Georgia Tech VIP-4601 VWE, 2020

*Building models for static sensors: the good, the bad, and the ugly*

- CompSust Doctoral Consortium, 2020

*How do I get started using machine learning for my camera traps?*

- WILDLABS Tech Tutor Talk Series, 2020

*Computer Vision for Conservation*

- Advanced Topics in Computational Vision, Caltech EE/CNS/CS 148, 2020