

# ERIC SLYMAN

*Ph.D. student at the intersection of multimodal AI, human-computer interaction, and fairness*

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## EDUCATION

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**Ph.D., Artificial Intelligence & Computer Science** – Oregon State University   Sep. 2021 - June 2025  
Norman & Evelyn Wildish Distinguished Graduate Fellow [0.13% invitation rate]   GPA: 4.00/4.00  
Outstanding Scholars Program [6% invitation rate]  
Committee: **Stefan Lee**, Minsuk Kahng, Sandhya Saisubramanian, Weng-Keen Wong, Yelda Turkan

**B.S./M.S., Computer Science** – Western Washington University   Sep. 2015 - Dec. 2020  
Accelerated Master's Fast Track Program   GPA: 3.78 (BS), 4.00 (MS)/4.00  
Graduated with top honors, Magna Cum Laude ( $\geq 97$ th percentile in class)

## EXPERIENCE

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**Graduate Researcher**   Sep. 2021 - Present  
*Advisers: Stefan Lee, Minsuk Kahng (previous co-advisor)*   *Oregon State University*

- Evaluated common Vision and Language (ViL) model pruning and quantization techniques for induced fairness disparities
- Constructed dashboards to expose representational biases in ViL models trained on large web-crawled data
- Developed interactive ViL clustering algorithms to aid in the creation of semantically aligned subgroups

**Research Intern**, Media Intelligence Lab   Jun. 2022/23/24 - Sep. 2022/23/24  
*Advisers: Kushal Kafle, Scott Cohen, Zoya Bylinskii*   *Adobe Research*

- Proposed a novel fair deduplication algorithm to mitigate subgroup disparities induced by dataset pruning
- Developed post-hoc calibration methods for multimodal human-LLM alignment (*paper coming soon...*)
- Developed an interactive interface enabling users to rapidly develop behavioral tests for ViL models
- Coded expert judgments of model performance to determine generally expected model competencies
- Trained LAION-scale CLIP models distributed on 100+ GPUs

**Post-Master's Research Associate**   Jan. 2021 - Sep. 2021  
*Advisers: Karl Pazdernik, Tim Doster*   *Pacific Northwest National Laboratory*

- Researched robust audiovisual fusion for person verification with varying modality corruptions
- Developed a differentiable rendering pipeline over PyTorch 3D for discovering natural adversarial examples
- Participated in STEM outreach with PNNL STEM Ambassadors as a public science communicator

**Graduate Research Assistant**   Dec. 2017 - Dec. 2020  
*Adviser: Brian Hutchinson*   *Western Washington University*

- Researched fine-grained classroom activity detection from audio
- Researched spatio-temporal generative adversarial Earth system model (ESM) emulation
- Investigated ImageNet error via iterative unsupervised clustering to expose low-performing subgroups

**AI Marketing Engineer Intern**   June 2020 - Sep. 2020  
*Supervisor: Siddharth Sharma*   *NVIDIA*

- Owned technical marketing research for Jarvis ConvAI framework to inform product positioning
- Performed hands-on analysis of SOTA ConvAI models in order to identify their strengths and weaknesses
- Surveyed literature of ConvAI technologies including 100+ NLU/NLP, ASR, and TTS papers, for key stakeholders

**Research Intern**, National Security Internship Program (NSIP)   July 2019 - Sep. 2019  
*Adviser: Andrew Avila*   *Pacific Northwest National Laboratory*

- Researched few-shot object detection and segmentation for large scale image sort and summary
- Developed an algorithm to produce learned image attention masks for use in few-shot image classification
- Utilized Prototypical Nets, Feature Pyramid Nets (FPN), Single-Shot Object Detectors (SSD, YOLOv3, RetinaNet)

## PAPERS

- [<sup>C1</sup>] **E. Slyman**, R. Li, K. Kaffe, S. Lee. “Calibrating Black-Box Multimodal LLM-as-a-Judge.,” Computer Vision and Pattern Recognition (CVPR), 2025. [\[Under Review\]](#)
- [<sup>C2</sup>] Z. Yang, X. Shi, **E. Slyman**, S. Lee. “Hijacking VLN Agents with Adversarial Environmental Attacks.,” Winter Conference on Applications in Computer Vision (WACV), 2025.
- [<sup>C3</sup>] **E. Slyman**, S. Lee, S. Cohen, and K. Kaffe. “FairDeDup: Detecting and Mitigating Vision-Language Fairness Disparities in Semantic Dataset Deduplication,” Computer Vision and Pattern Recognition (CVPR), 2024. [\[ericslyman.com/fairdedup\]](#) *Also presented at the workshop on What is Next in Multi-Modal Foundation Models? (MMFM @ CVPR)*
- [<sup>C4</sup>] **E. Slyman**, M. Kahng, and S. Lee. “VLSlice: Interactive Vision-and-Language Slice Discovery,” International Conference on Computer Vision (ICCV), 2023. [\[ericslyman.com/vlslice\]](#)
- [<sup>P1</sup>] **E. Slyman**, S. Cohen, and K. Kaffe. “Generating And Modifying Digital Image Databases Through Fairness Deduplication,” US Patent Pending, 2024.
- [<sup>W1</sup>] **E. Slyman**, A. Kanneganti, S. Hong, S. Lee. “You Never Know: Quantization Induces Inconsistent Biases in Vision-Language Foundation Models,” NeurIPS workshop on Responsibly Building the Next Generation of Multimodal Foundation Models (RBFM), 2024. <https://arxiv.org/abs/2410.20265>
- [<sup>W2</sup>] **E. Slyman**, K. Kaffe, and S. Cohen. “VALET: Vision-And-LanguagE Testing with Reusable Components,” NeurIPS Queer in AI Workshop (QAI), 2023. Extended Abstract. [\[ericslyman.com/assets/pdf/valet.pdf\]](#)
- [<sup>W3</sup>] T. Nowak, **E. Slyman**. “AdvPose: Generating Realistic Adversarial Scenes Through Object Pose Manipulation,” PNNL - Private Controlled Venue, 2022.
- [<sup>W4</sup>] A. Ayala, C. Drazic, S. Bassetti, **E. Slyman**, B. Nieva, P. Wolters, K. Bittner, C. Tebaldi, B. Kravitz, and B. Hutchinson. “Conditional Emulation of Global Precipitation With Generative Adversarial Networks,” ICLR workshop on AI for Earth and Space Science (AI4ESS), 2022. [\[ai4earthscience.github.io\]](#)
- [<sup>W5</sup>] **E. Slyman**, C. Daw, M. Skrabut, A. Usenko, and B. Hutchinson. “Fine-Grained Classroom Activity Detection from Audio with Neural Networks,” AAAI Workshop on Artificial Intelligence for Education (AI4ED), 2022. [\[arxiv.org/abs/2107.14369\]](#)
- [<sup>W6</sup>] A. Ayala, C. Drazic, **E. Slyman**, P. Wolters, B. Nieva, B. Hutchinson, C. Tebaldi, and B. Kravitz. “Conditioned Emulation of Global Climate Models With Generative Adversarial Networks,” NOAA Workshop on Leveraging AI in Environmental Sciences, 2021. Extended Abstract.
- [<sup>A1</sup>] D. Claborne, **E. Slyman**, and K. Pazdernik. “On the Behavior of Audio-Visual Fusion Architectures in Identity Verification Tasks,” arXiv preprint, 2023. [\[arxiv.org/abs/2311.05071\]](#)

## TALKS

|                           |   |                              |
|---------------------------|---|------------------------------|
| Sony AI Ethics Group      | FairDeDup: Align deduplication with human-values for fair fast training | 2025                         |
| oSTEM Conference Panel    | An exploration of navigating academic spaces as nonbinary               | 2024                         |
| Apple Vision Pro R&D      | Scaling Human Oversight for Fair Large Vision-Language Models           | 2024                         |
| OSU State of Diversity    | Bias and Representation in Multimodal AI                                | <a href="#">[video]</a> 2024 |
| Google People+AI Research | Auditing Vision-Language Bias With VLSlice                              | 2023                         |
| OSU Board of Trustees     | Social Bias in Artificial Intelligence                                  | 2023                         |
| OSU Graduate Showcase     | Bias Discovery in Vision-and-Language Artificial Intelligence           | <a href="#">[video]</a> 2023 |
| PNNL Computing Colloquium | Corruption Tolerant Audiovisual Embeddings for Person Verification      | 2021                         |
| WWU/PNNL W2D2S2           | Fine-Grained Classroom Activity Detection                               | 2021                         |
| PNNL Computing Colloquium | Few-Shot Image Segmentation Through Object Recognition                  | 2019                         |
| WWU Distinguished Lecture | Machine Learning for Classroom Analysis                                 | 2019                         |

## MEDIA

|                      |  |  |
|----------------------|--|--|
| Orange Hello Future  | FairDeDup limits social biases in AI models                          | <a href="#">[article]</a> 2024                             |
| OSU Daily Barometer  | OSU researcher seeks to lessen AI biases                             | <a href="#">[article]</a> 2024                             |
| OPB Think Out Loud   | Oregon and Washington graduate students tackle problem of bias in AI | <a href="#">[radio]</a> 2024                               |
| JPR Jeffe. Exchange  | OSU researcher works to screen the bias out of AI                    | <a href="#">[radio]</a> 2024                               |
| WWW Tech Times       | Adobe Researchers Develop [...] to Make AI Less Socially Biased      | <a href="#">[article]</a> 2024                             |
| KLCC Science & Tech. | OSU student heads research in developing anti-bias practices for AI  | <a href="#">[radio]</a> 2024                               |
| OSU Newsroom         | Researchers [...] aim to make AI systems less socially biased        | <a href="#">[article]</a> 2024                             |
| OSU Inst. Diversity  | Eric Slyman works to address fairness and representation in AI       | <a href="#">[article]</a> <a href="#">[interview]</a> 2024 |
| OSU Taking Action    | Addressing Bias in AI: Eric Slyman builds tools to where [...]       | <a href="#">[article]</a> 2024                             |

## HONORS

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|------------|---|--------------|
| oSTEM      | Award for hosting a highly attended conference session                        | 2024         |
| Google/OSU | Google PhD Fellowship Finalist: One of two students nominated university-wide | 2024         |
| OSU        | Invited Poster, AI Week Global Futures Forum Reception                        | [web] 2024   |
| OSU        | Best Poster, EECS Department AI Meetup for Industry and Alumni                | [web] 2024   |
| CvF/IEEE   | DEI Grant, Computer Vision & Pattern Recognition (CVPR)                       | 2024         |
| OSU        | Selected for Featured Program in <i>State of Diversity</i> at Oregon State    | [video] 2024 |
| CvF/IEEE   | DEI Grant, International Conference on Computer Vision (ICCV)                 | 2023         |
| Adobe      | Category Winner and 2nd Best Overall, Intern Code Quality Jam                 | 2022         |
| OSU        | Edith McDougall Scholarship   | 2022         |
| OSU        | Norman & Evelyn Wildish Distinguished Graduate Fellowship                     | 2021         |
| WWU        | Academic Excellence in Computer Science Award                                 | 2019, 2021   |
| ACM        | Alumni Division Winner, WWU Hackathon   | 2021         |
| WWU        | Track Global Fellowship in Computer Science                                   | 2019, 2020   |
| ACM        | Travel Grant, ACM FAT* (Now ACM FAccT)  | 2020         |
| WWU        | Travel Grant, NeurIPS   | 2019         |
| WWU        | Susan Brown Advancing Technology Education Scholarship                        | 2019         |
| ACM        | Best Presentation, WWU Hackathon  | 2018         |

## SERVICE

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### Reviewing

- IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2025
- IEEE / CvF Computer Vision and Pattern Recognition (CVPR) 2024-2025
- Transactions on Machine Learning Research (TMLR) 2023-2025
- Conference on Neural Information Processing Systems (NeurIPS) 2023-2025
- What is Next in Multimodal Foundation Models Workshop (MMFM @ CVPR) 2024
- IEEE Visualization Conference (VIS) 2024
- ACM Conference on Human Factors in Computing Systems (CHI) 2022
- AAAI Conference on Artificial Intelligence (AAAI) 2022

### Outreach

- Co-organizer & panelist - “An exploration of navigating academic spaces as nonbinary,” oSTEM 2024
- Founded mentoring program for underserved students applying to OSU AI [aigsa.club/aiasp] 2022
- PNNL STEM Ambassador - Speaking in 6-12th grade classrooms on STEM pathways [pnnl.gov/stem-outreach] 2021

### Co-President

*Supervisor: Stefan Lee*

July 2021 - Present

*OSU AI Graduate Student Association*

- Elected leadership position in club of 250+ graduate EECS students [aigsa.club]
- Lead organizer on 10+ major events/year, weekly reading groups, and outreach programs
- Organized lightning talks and poster session for AI Week [dri.oregonstate.edu/ai-week]

### Graduate Ambassador

*Supervisor: Glencora Borradaile*

Sep. 2023 - Sep. 2024

*OSU College of Engineering*

- Supporting recruitment and retention with emphasis on supporting underserved students
- Providing feedback to the Associate Dean for Graduate Programs on graduate-student related initiatives

### Early-Career Professional Mentor

*Supervisor: Perry Fizzano*

Sep. 2020 - Sep. 2022

*WWU CS/M Scholars*

- Invited mentor for a NSF funded program supporting women, underrepresented minorities, and first generation students in pursuit of degrees in computer science and math

## TEACHING

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### Graduate Teaching Assistant

*Supervisor: Stefan Lee, Margaret Burnett*

Sep. 2023 - Present

*OSU/WWU*

- Deep Learning · NLP With Deep Learning · Lab Studies in HCI · ML & Data Mining · Deep Learning · Data Structures