

# ERIC SLYMAN

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

✉ slymane@oregonstate.edu   👤 they/he   in linkedin.com/in/ericslyman   🌐 ericslyman.com   🎓 Google Scholar

## EDUCATION

---

**Ph.D., Artificial Intelligence & Computer Science** – Oregon State University   Sep. 2021 - June/Dec. 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, Margaret Burnett, 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

## EXPERIENCE

---

**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*   *Adobe Research*

- Proposed a novel fair deduplication algorithm to mitigate subgroup disparities induced by dataset pruning
- 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

- [P1] Z. Yang, X. Shi, **E. Slyman**, S. Lee “Adversarial Environment Attacks on Vision-and-Language Navigation Agents,” Neural Information Processing Systems (NeurIPS), 2024. [\[Under Review\]](#)
- [P2] **E. Slyman**, S. Cohen, and K. Kafle. “Generating And Modifying Digital Image Databases Through Fairness Deduplication,” US Patent Pending, 2024.
- [P3] **E. Slyman**, S. Lee, S. Cohen, and K. Kafle. “FairDeDup: Detecting and Mitigating Vision-Language Fairness Disparities in Semantic Dataset Deduplication,” Computer Vision and Pattern Recognition (CVPR), 2024. [\[ericslyman.com/fairdedup\]](https://ericslyman.com/fairdedup)  
*Also presented at the workshop on What is Next in Multi-Modal Foundation Models? (MMFM @ CVPR)*
- [P4] **E. Slyman**, K. Kafle, and S. Cohen. “VALET: Vision-And-LanguageE Testing with Reusable Components,” NeurIPS Queer in AI Workshop (QAI), 2023. Extended Abstract. [\[ericslyman.com/assets/pdf/valet.pdf\]](https://ericslyman.com/assets/pdf/valet.pdf)
- [P5] **E. Slyman**, M. Kahng, and S. Lee. “VLSlice: Interactive Vision-and-Language Slice Discovery,” International Conference on Computer Vision (ICCV), 2023. [\[ericslyman.com/vlslice\]](https://ericslyman.com/vlslice)
- [P6] D. Claborn, **E. Slyman**, and K. Pazdernik. “On the Behavior of Audio-Visual Fusion Architectures in Identity Verification Tasks,” arXiv preprint, 2023. [\[arxiv.org/abs/2311.05071\]](https://arxiv.org/abs/2311.05071)
- [P7] T. Nowak, **E. Slyman**. “AdvPose: Generating Realistic Adversarial Scenes Through Object Pose Manipulation,” PNNL - Private Controlled Venue, 2022.
- [P8] 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. [\[ai4earthscience.github.io\]](https://ai4earthscience.github.io)
- [P9] **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. [\[arxiv.org/abs/2107.14369\]](https://arxiv.org/abs/2107.14369)
- [P10] 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.

## TALKS

|          |                       |  |                              |
|----------|-----------------------|--|------------------------------|
| 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                         |

## HONORS

|            |  |                              |
|------------|--|------------------------------|
| Google/OSU | One of two students university-wide nominated to the Google PhD Fellowship | 2024                         |
| OSU        | Invited Poster, AI Week Global Futures Forum Reception                     | <a href="#">[web]</a> 2024   |
| OSU        | Best Poster, EECS Department AI Meetup for Industry and Alumni             | <a href="#">[web]</a> 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 | <a href="#">[video]</a> 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        | Academic Honors, Magna Cum Laude   | 2019                         |
| WWU        | Susan Brown Advancing Technology Education Scholarship                     | 2019                         |
| ACM        | Best Presentation, WWU Hackathon   | 2018                         |

## MEDIA

|        |                 |  |           |      |
|--------|-----------------|--|-----------|------|
| Orange | Hello Future    | Coming soon...   | [article] | 2024 |
| OSU    | Daily Barometer | Coming soon...   | [article] | 2024 |
| OPB    | Think Out Loud  | Oregon and Washington graduate students tackle problem of bias in AI | [radio]   | 2024 |
| JPR    | Jeffe. Exchange | OSU researcher works to screen the bias out of AI                    | [radio]   | 2024 |
| KLCC   | Science & Tech. | OSU student heads research in developing anti-bias practices for AI  | [radio]   | 2024 |
| OSU    | Newsroom        | Researchers [...] aim to make AI systems less socially biased        | [article] | 2024 |
| OSU    | Inst. Diversity | Eric Slyman works to address fairness and representation in AI       | [article] | 2024 |
| OSU    | Taking Action   | Addressing Bias in AI: Eric Slyman builds tools to where [...]       | [article] | 2023 |

## SERVICE

### Reviewing

- IEEE Visualization Conference (VIS) 2024
- IEEE / CvF Computer Vision and Pattern Recognition (CVPR) 2024
- What is Next in Multimodal Foundation Models Workshop (MMFM @ CVPR) 2024
- Conference on Neural Information Processing Systems (NeurIPS) 2023
- Transactions on Machine Learning Research (TMLR) 2023
- 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/aiaasp](https://aigsa.club/aiaasp) 2022
- PNNL STEM Ambassador - Speaking in 6-12th grade classrooms on STEM pathways [pnnl.gov/stem-outreach](https://pnnl.gov/stem-outreach) 2021

### Co-President

July 2021 - Present

*Supervisor: Stefan Lee*

*OSU AI Graduate Student Association*

- Elected leadership position in club of 250+ graduate EECS students [aigsa.club](https://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](https://dri.oregonstate.edu/ai-week)

### Graduate Ambassador

Sep. 2023 - Sep. 2024

*Supervisor: Glencora Borradaile*

*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
- Organizing development events for networking, career advancement, and personal and professional growth

### Early-Career Professional Mentor

Sep. 2020 - Sep. 2022

*Supervisor: Perry Fizzano*

*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

### Graduate Teaching Assistant

Sep. 2023 - Present

*Supervisor: Stefan Lee, Margaret Burnett*

*Oregon State University*

- AI 539 Natural Language Processing With Deep Learning
- CS 567 Lab Studies in Software Engineering & HCI
- CS 434 Machine Learning & Data Mining

### Graduate Teaching Assistant

Sep. 2019 - June 2020

*Supervisor: Brian Hutchinson*

*Western Washington University*

- CS 597 Deep Learning
- CS 301 Formal Languages & Functional Programming
- CS 241 Data Structures
- CS 141 Computer Programming I