ERIC SLYMAN

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

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EDUCATION

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 (≥97th percentile in class)

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, 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

[C1] **E. Slyman**, R. Li, K. Kafle, S. Lee. "Calibrating Black-Box Multimodal LLM-as-a-Judge.,"
Computer Vision and Pattern Recognition (CVPR), 2025. [Under Review]

[C2] Z. Yang, X. Shi, **E. Slyman**, S. Lee. "Hijacking VLN Agents with Adversarial Environmental Attacks.,"
Winter Conference on Applications in Computer Vision (WACV), 2025.

[C3] **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]
Also presented at the workshop on What is Next in Multi-Modal Foundation Models? (MMFM @ CVPR)

[C4] **E. Slyman**, M. Kahng, and S. Lee. "VL*Slice*: Interactive Vision-and-Language Slice Discovery,"
International Conference on Computer Vision (ICCV), 2023. [ericslyman.com/vlslice]

[P1] **E. Slyman**, S. Cohen, and K. Kafle. "Generating And Modifying Digital Image Databases Through Fairness Deduplication,"
US Patent Pending, 2024.

[W1] **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 Gen. of MM Foundation Models (RBFM), 2024.

[W2] **E. Slyman**, K. Kafle, 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]

[W3] T. Nowak, **E. Slyman**. "AdvPose: Generating Realistic Adversarial Scenes Through Object Pose Manipulation,"
PNNL - Private Controlled Venue, 2022.

[W4] 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]

[W5] **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]

[W6] 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.

[A1] 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
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	[video]	2024
Google	People+AI Research	Auditing Vision-Language Bias With VL*Slice*		2023
OSU	Board of Trustees	Social Bias in Artificial Intelligence		2023
OSU	Graduate Showcase	Bias Discovery in Vision-and-Language Artificial Intelligence	[video]	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	[article]	2024
OSU	Daily Barometer	OSU researcher seeks to lessen AI biases	[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
WWW	Tech Times	Adobe Researchers Develop [...] to Make AI Less Socially Biased	[article]	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] [interview]	2024
OSU	Taking Action	Addressing Bias in AI: Eric Slyman builds tools to where [...]	[article]	2024

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 [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 *State of Diversity* 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

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 July 2021 - Present
Supervisor: Stefan Lee *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 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 *OSU/WWU*

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