

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 2026
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: 4.00/4.00*

RESEARCH EXPERIENCE

Graduate Fellow Sep. 2021 - Present
Advisers: Stefan Lee, Minsuk Kahng *Oregon State University*

- Behavioral testing of large scale Vision and Language (ViL) models to verify baseline visiolinguistic competencies
- User-guided clustering of image embeddings to aid creation of semantically aligned visual groups
- Exposing known and unknown representational biases in visiolinguistic embeddings trained on web-crawled data
- *Paper pending*

Research Intern, Media Intelligence Lab Jun. 2022 - Sep. 2022
Advisers: Kushal Kafle, Scott Cohen *Adobe Research*

- Conducted in-depth literature review to identify and qualitative statements about expected model behavior
- Coded expert judgments of model performance to determine generally expected model competencies
- Developed interactive visual user interface enabling users to rapidly develop tests for Vision and Language (ViL) models
- *Paper and patent pending*

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

- Researched audiovisual fusion for person verification with variable modality corruption [[1](#)]
- Built 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*

- Fine-Grained Classroom Activity Detection from Audio with Neural Networks [[2](#), [4](#), [7](#)]
- Spatio-Temporal Generative Adversarial Earth-System-Model (ESM) Emulation [[6](#), [8](#)]
- Understanding Error In ImageNet Through Unsupervised Clustering Of Hidden Representations

Research Intern, National Security Internship Program (NSIP) [[3](#)] July 2019 - Sep. 2019
Adviser: Andrew Avila (andrew.avila@pnnl.gov) *Pacific Northwest National Laboratory*

- Few-Shot object detection and segmentation for large scale image sort and summary project
- Produced 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)

LECTURES & TALKS

- [1] "Corruption Tolerant Audiovisual Embeddings for Person Verification," Computing@PNNL Colloquium, 2021.
- [2] "Fine-Grained Classroom Activity Detection," Western Washington Data-Drive Discovery Seminar Series, 2021.
- [3] "Few-Shot Image Segmentation Through Object Recognition," Computing@PNNL Colloquium, 2019.
- [4] "Machine Learning for Classroom Analysis," WWU Distinguished Lecture Series, 2019. [[Invited Talk](#)]
- [5] "Deep Learning For Generative Audio," WWU Graduate Lectures, 2019.

REFERRED WORKS

- [6] Alex Ayala, Chris Drazic, Seth Bassetti, **Eric Slyman**, Brenna Nieva, Piper Wolters, Kyle Bittner, Claudia Tebaldi, Ben Kravitz, and Brian Hutchinson. “Conditional Emulation of Global Precipitation With Generative Adversarial Networks,” International Conference on Learning Representations (ICLR) workshop on AI for Earth and Space Science (AI4ESS), 2022. [ai4earthscience.github.io/iclr-2022-workshop]
- [7] **Eric Slyman**, Chris Daw, Morgan Skrabut, Ana Usenko, and Brian Hutchinson. “Fine-Grained Classroom Activity Detection from Audio with Neural Networks,” AAAI Conference on Artificial Intelligence (AAAI) Workshop on Artificial Intelligence for Education (AI4ED), 2022. [arxiv.org/abs/2107.14369]
- [8] Alex Ayala, Chris Drazic, **Eric Slyman**, Piper Wolters, Brenna Nieva, Brian Hutchinson, Claudia Tebaldi, and Ben Kravitz. “Conditioned Emulation of Global Climate Models With Generative Adversarial Networks,” 3rd NOAA Workshop on Leveraging AI in Environmental Sciences, 2021.

PROFESSIONAL EXPERIENCE

Co-President

Supervisor: *Stefan Lee*

July 2021 - Present

OSU AI Graduate Student Association

- Elected leadership position in club of 200 graduate EECS students
- Organized application mentoring for underserved students applying to the AI program [aigsa.club/aiasp]

Volunteer Early-Career Professional Mentor

Supervisor: *Perry Fizzano (fizzano@wwu.edu)*

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

Volunteer Organizer & Co-Founder

Supervisor: *N/A*

Aug. 2020 - Jun. 2022

Rad Mutual Education

- Mutual aid-centered computer science education democratizing learning for local youth
- Providing instruction, technology access and addressing other needs such as access to healthy snacks

AI Marketing Engineer Intern

Supervisor: *Siddharth Sharma*

June 2020 - Sep. 2020

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 such as natural language understanding (NLU) automatic speech recognition (ASR) and text-to-speech (TTS), summarizing more than 100 papers for key stakeholders

Graduate Teaching Assistant

Supervisor: *Brian Hutchinson*

Sep. 2019 - June 2020

Western Washington University

- Running labs, office hours and grading for the following courses:
Deep Learning (grad) | Data Structures | Computer Programming | Formal Languages

HONORS & AWARDS

Adobe Intern Code Quality Jam, Category Winner and 2nd Best Overall	July 2022
OSU Edith McDougall Scholarship	May 2022
OSU Norman & Evelyn Wildish Distinguished Graduate Fellowship	May 2021
WWU Academic Excellence in Computer Science Award	May 2021, June 2019
ACM Alumni Division Winner, WWU Hackathon	Apr. 2021
WWU Track Global Fellowship in Computer Science	June 2020, June 2019
ACM Travel Grant, ACM FAT* (Now ACM FAccT)	Jan. 2020
WWU Travel Grant – Departmental, ACM FAT*	Jan. 2020
WWU Travel Grant – Associated Students, ACM FAT*	Jan. 2020
WWU Travel Grant, NeurIPS	Dec. 2019
WWU Academic Honors, Magna Cum Laude	June 2019
WWU Susan Brown Advancing Technology Education Scholarship	June 2019
WWU Distinguished Speaker, Scholars Week	Apr. 2019
ACM Best Presentation, WWU Hackathon	Feb. 2018

RELEVANT GRADUATE COURSEWORK

Artificial Intelligence & Machine Learning

Machine Learning (ML)
Deep Learning (DL)
Computer Vision (CV)
Natural Language Processing (NLP)
Causal Inference
Intelligent Agents (RL)

Human-Computer Interaction & Visualization

Human-Computer Interaction (HCI)
Inclusive Design
Visual Analytics
Scientific Data Visualization
Social & Ethical Issues in AI
Experimental Design

SKILLS

Languages Python, Matlab, Go, HTML, CSS, JavaScript, Java, C, SQL, Julia

AI Tools PyTorch, PyTorch Lightning, Scikit-learn, OpenCV, Numpy, Pandas, Weights & Biases, Hugging Face

VIS Tools Svelte, Flask, Semantic UI, SMUI/Material, DaisyUI, Tailwind CSS, Adobe XD, Figma, D3, Matplotlib, Plotly, Vega-Lite

Other AWS (EC2, S3, Cloudfront), Boto3, Tweepy, Hydra, Jupyter

Academic & Research

Open ended research
Human subjects research
In-depth literature review

ML/DL

Machine perception
Few-shot learning
Transfer learning

Leadership

Project management
Agile software development
Conflict resolution

Communication

Public speaking
Technical writing
Music production 🎵