

Linh Tran

<https://github.com/lnhtrn>

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Education	University of Rochester (GPA: 4.0)	Jan 2025-Present
	Masters of Science in Computer Science	Graduation: Dec 2025
	<i>Specialization: Artificial Intelligence and Human-Computer Interaction</i>	
	Courses: Human Computer Interaction, Introduction to Augmented and Virtual Reality, End-to-End Deep Learning, Machine Vision, Algorithmic Game Theory	

University of Rochester **Aug 2020-Dec 2024**
Bachelor of Science in Computer Science, Minor in Mathematics
Relevant Courses: Machine Learning, Natural Language Processing, Data Structures & Algorithms,
Computer Organization.

Publication	S. Chatterjee, L. Tran , Q. D. Nguyen, R. Kirson, D. Hamlin, H. Aquino, H. Lyu, J. Luo, and T. Dye.
Under Review	<i>Assessing Historical Structural Oppression Worldwide via Rule-Guided Prompting of Large Language Models</i> . Submitted to IEEE Big Data, 2025.

Poster	<i>LLMs as Sociologists: Leveraging AI/ML contextual knowledge for Social Oppression.</i> 2025 Finger Lakes Science and Technology Showcase, Rochester, NY
Presentations	<i>Investigation of Racial Bias in Vision-Language Assistants in Workplace Settings.</i> ACM New York Celebration of Women in Computing 2025 (WiCNYC '25). <i>Can Finetuning Overcome Racial Bias In Face Recognition Models?</i> University of Rochester Schwartz Discover Grant Symposium, 2024.

Research Experience

ROC-HCI BEAR Lab with Dr. Yukang Yan Feb 2025–Present
AR Housework Assistant for Individuals with Executive Dysfunction (lead researcher).

- Enabled context-aware task prompting for individuals with ADHD by integrating real-time object recognition into an AR assistant to reduce executive dysfunction during household chores.
- Researched and planned a formative user study to evaluate usability and impact of executive function on completing household chores and how to mitigate.
- Trained and deployed a custom YOLOv9 object detection model to recognize household items (e.g., dishes, laundry) as part of an AR system built with Unity and C# for Meta Quest 3.

Computer Vision for dynamic spatial placement of AR/VR applications in changing environments

- Developed user study questionnaire and conducted pilot studies with participants to evaluate interaction preferences for VR application locations.

Dye Lab, University of Rochester Medical Center with Dr. Tim Dye Sep 2024–Present
Data Science Research Assistant

- Collaborated with epidemiologists to develop a LLM-based tool that analyzes global COVID-19 survey responses for indicators of systemic oppression and demographic bias.
- Engineered 20+ text prompts to elicit nuanced responses from large language models (Phi-4, Gemma, DeepSeek), focusing on social inequity, discrimination, and marginalization per country.
- Implemented a scoring system based on token probabilities using PyTorch and Transformers to classify and rank LLM responses based on severity and specificity of oppressive language.
- Enhanced model contextuality by integrating few-shot learning using curated country-specific knowledge and sociopolitical data to improve sensitivity to cultural and national variations.

kLab, University of Rochester with Dr. Christopher Kanan Jan 2024–Mar 2025
Bias Detection and Mitigation in Vision-Language and Computer Vision Models

- Designed and implemented a bias evaluation framework using Python and PyTorch to analyze over 20 vision models (e.g., ResNet, VGG-13, DINOv2), achieving a 9% reduction in demographic bias while maintaining 80% task accuracy.

- Investigated racial bias in corporate hiring pipelines by prompting Vision-Language Models (VLMs) to evaluate candidate traits (e.g., professionalism, competence) using only facial images, revealing biased patterns that may disadvantage marginalized applicants.
- Developed a GPU-accelerated CI/CD pipeline with Weights & Biases to automate the testing, logging, and deployment of deep neural networks in fairness-sensitive evaluation tasks.

Work
Experience

Bryan R. Harrison, PhD Psychologist, PC
Machine Learning/AI Developer Intern

June 2025–Aug 2025

- Designed and deployed a web-based assistive tool that streamlined clinician workflows, increasing efficiency by 200% by transforming speech into structured reports via Python, OpenAI API, and Streamlit.
- Developed human-centered prompt-engineering strategies and website interface, enabling clinicians to interact naturally with AI systems without technical expertise.
- Conducted contextual inquiry interviews, iterative user testing and feedback sessions with clinicians to refine usability, accessibility, and alignment with healthcare tasks.
- Implemented secure Google OAuth authentication and containerized the application with Docker on Google Cloud Platform for scalable, HIPAA-compliant deployment.

VinBigData

May 2023–Aug 2023

Data Science Intern

- Optimized a large language model (LLM) question classifier and enhanced its user-facing accuracy, improving the experience for end-users interacting with automated Q&A systems.
- Augmented the SQuAD 2.0 dataset with 50,000 high-quality question-answer pairs to reduce false answers, support better human-AI comprehension and interaction.
- Deployed a multilingual semantic analysis model via TorchServe, automating post-processing and accelerating accuracy evaluation speed by 200%.
- Collaborated with research scientists and ML engineers to enhance production-readiness and usability of NLP pipelines.

HADTech Joint Stock Company

Feb 2021–May 2021

Web Development Intern & Frontend Team Leader

- Collected and analyzed user feedback to inform website and app design, ensuring alignment with customer needs and usability best practices.
- Designed key website components, including dashboards, search, and profile pages, using Figma to create intuitive and visually coherent interfaces.
- Developed and prototyped mobile app and web interfaces, iteratively refining designs based on team and user input.
- Collaborated with cross-functional teams to integrate design with frontend and backend systems, balancing usability with technical feasibility.

Awards

2024 University of Rochester Schwartz Discover Grant for Undergraduate Students – \$5000
2023 University of Rochester Biomedical Data Science Hackathon, *First Place*

Projects

Rocky-Road: Endless Running Game

Nov 2022

Silver Joker Prize – Class Hackathon

- Developed an iOS endless running game inspired by the University of Rochester mascot, implementing gameplay mechanics in Swift and designing sprite assets using Procreate.
- Designed and prototyped user interface and game themes in Figma, incorporating three seasonal themes (Spring/Summer, Fall, Winter) to enhance player engagement and visual diversity.
- Implemented dynamic obstacle generation and scoring systems, enabling a smooth and scalable gameplay experience with goal-based reward mechanics.
- Applied principles of Human-Computer Interaction, including usability testing and iterative design, to optimize player experience and intuitiveness of game controls.
- Collaborated with peers to integrate art, animation, and game logic, demonstrating project management, teamwork, and end-to-end development skills relevant for HCI research.

Teaching Assistantship	CSC 246 Machine Learning, <i>Teaching Assistant</i>	Spring 2024, Fall 2024
	CSC 242 Introduction to Artificial Intelligence, <i>Teaching Assistant</i>	Fall 2023
	The Learning Center, <i>Tutor, Study Group Leader, Study Zone Leader</i>	Aug 2023–Present
Community Involvement	University of Rochester Orientation, <i>Orientation Week Leader</i>	Aug 2024–Sep 2024
	Vietnamese Student Association, <i>Event Manager, Executive Board</i>	Sep 2022–Sep 2023
	Lilac Housing, <i>Vice President, Executive Board</i>	Sep 2021–May 2022