Andre Ye

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EDUCATION

University of Washington — **Seattle, WA**
B.S., Computer Science. B.A., Philosophy with Honors. — *Sep. 2021 – Jun. 2025*
Minors in mathematics, Russian language. Early Entrance Program. 4.0 GPA.

RESEARCH

Cultural and Linguistic Diversity Improves Vision Representations — **Allen School of CSE, University of Washington**
Advisors: Ranjay Krishna, Amy Zhang. *Mentor*: Sebastin Santy. *See*: [P2] (1st author) — *Feb. 2023 - Oct. 2023*
Examined differences in visual perception across cultural and linguistic backgrounds manifest in vision datasets, models, and APIs. Demonstrated effects on the 'perception' of models trained on perceptually different data..

Uncertainty Annotation in Medical Semantic Segmentation — **Social Futures Lab, University of Washington**
Advisor: Amy Zhang. *Mentor*: Quan Ze (Jim) Chen. *See*: [P1] (1st author), [T3], [T4] — *Feb. 2022 - Jan. 2023*
Designed an efficient uncertainty annotation method & interface for medical semantic segmentation, collected annotations in user studies, trained models to produce uncertainty-segmentations on novel samples, and demonstrated its utility for clinicians.

Theory of (Moral) Meaning in LLMs — **Allen School of CSE (UW), Stanford Dept. of CS**
Advisor: Jared Moore. *Collaborator*: Mark Pock. *See*: [P3] (joint 1st author) — *Mar. 2023 - Oct. 2023*
Thesis: Insofar as morality is a social(ogical) object with a complex geneology and LLMs learn the statistical structure of social totality, unaligned LLMs grasp morality in concept. We distinguish value pluralism *in content*, the current 'default', and pluralism *in concept*.

Curriculum Learning for Large-Scale Audio Transcription Models — **Deepgram**
Advisor: Andrew Seagraves. — *Jun. 2022 - Sep. 2022*
Developed more data-efficient methods for audio transcription model training by designing data 'curricula', or specialized pathways through the dataset, yielding up to a 2x speedup. Analyzed the content distribution of datasets & scaling laws to determine optimal curricula.

Segmenting Local, Small, and Specialized Kidney Artifacts — **Najafian Lab, UW Medicine**
Advisor: Behzad Najafian. *Collaborator*: David Smerkous. *See*: [T1] — *Mar. 2021 - May 2022*
Engineer transparent and high-performance methods for developing a custom model to segment small, specialized artifacts in electromicroscopy images of the glomerulus (kidney). Segmentations are used to evaluate glomerulus damage, which is of prognostic significance.

PUBLICATIONS

Peer-Reviewed

[P1]: **Andre Ye**, Quan Ze Chen, and Amy Zhang. "Confidence Contours: Uncertainty-Aware Annotation for Medical Semantic Segmentation." In the Eleventh AAAI Conference on Human Computation and Crowdsourcing (HCOMP), November 2023.

In Submission

[P2]: **Andre Ye**, Sebastian Santy, Jena D. Huang, Amy Zhang, Ranjay Krishna. "Cultural and Linguistic Diversity Improves Visual Representations." In submission to ICLR 2024.
[P3]: **Andre Ye**, Mark Pock, Jared Moore. "LLMs grasp morality in concept." In submission to NeurIPS 2024, Moral Psychology and Moral Philosophy Workshop.

Books

[P4]: **Andre Ye**. *Modern Deep Learning Design and Application Development*. Apress Berkeley (Springer Nature), November 2021. 451 pages. https://doi.org/10.1007/978-1-4842-7413-2.
[P5]: **Andre Ye**, Zian (Andy) Wang. *Deep Learning for Tabular Data*. Apress Berkeley (Springer Nature), December 2022. 842 pages. https://doi.org/10.1007/978-1-4842-8692-0.

TALKS & POSTERS

[T1]: “A Novel Approach to Segment Specialized Annotations in Electron Microscopy Images of Glomerular Podocytes”. 25th Undergraduate Research Symposium, May 2022. Talk.
[T2]: “Emergent Language: Independent AI Development of a Language-Like Syntax.” Discovering AI Conference at the eScience Institute, May 2022; NeuroAI Seattle Meeting, September 2020. Poster.
[T3]: “Confidence Contours: Uncertainty-Aware Annotation for Medical Semantic Segmentation.” 26th Undergraduate Research Symposium, May 2023. Talk.
[T4]: “Confidence Contours: Uncertainty-Aware Annotation for Medical Semantic Segmentation.” Allen School Undergraduate Research Showcase, May 2023. Poster.

TA

Teaching Assistant, CSE 160 & 163 (Data Programming) — **Allen School of CSE**
Mar. 2022 - Present

TA for introduction Python and data programming course. Helped students from a wide variety of academic backgrounds and interests develop data skills.

Teaching Assistant, English Composition & Literary Analysis — **Robinson Center**
Sep. 2022 - Present

TA for introductory through intermediate level composition and literary analysis courses. Designed and taught units on critical/cultural and media theory.

Teaching Assistant, Introduction to Machine Learning — **The Coding School (TCS)**
Sep. 2022 - Jun. 2023

TA for TCS’ online, nationwide introductory ML course for disadvantaged or underrepresented high schoolers and middle/high school educators.

VOLUNTEERING & COMMUNITY INVOLVEMENT

Philosophy of Deep Learning, Group Leader — **Interactive Intelligence**
Sep. 2022 - Aug. 2023

Organized and led small group meetings. Each week, we discuss assigned book excerpts / papers. Completed *On the Existence of Digital Objects*, Yuk Hui. Encouraged CS students to take interest in philosophy, and philosophy students to take interest in CS topics.

Reading Group Coordinator & Web Support — **Philosophy Department**
Jun. 2023 - Aug. 2023

Organized, coordinated, and provided web support for summer reading groups and lectures at the Philosophy Department.

Research Head — **Interactive Intelligence**
Jan. 2022 - Jun. 2023

Spearheaded and supported research at Interactive Intelligence, a student-run neuroscience and AI research group. Advised ongoing projects, advocated for compute resources (raised over $25k), helped onboard new students. Led the Emergent Language group and presented a poster at [T2].

Coronavirus Literature Retrieval Team Member — **CoronaWhy**
Apr. 2020 - Jun. 2020

Assisted a large team working on a question answering and scientific research retrieval model for COVID-19.