

ZEHUA (ALEX) YOU

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500 College Avenue, Swarthmore, PA, 19081

EDUCATION

Swarthmore College

Swarthmore, PA

B.A. Honors major in Computer Science, Honors minor in Sociology & Anthropology Aug 2022 – May 2026

GPA: 3.98/4.00

Awards: McCabe Scholarship (a four-year, full-tuition scholarship awarded to top 10 students annually).

Core Courses: Machine Learning, Artificial Intelligence, Algorithms, SpecTop: Computational Geometry, Social Computing, Data Structure and Algorithm, Discrete Mathematics, Linear Algebra with Theory.

PUBLICATIONS

Levin Ho, Morgan McErlean, **Zehua You**, Douglas Blank, and Lisa Meeden (2025). AI Toolkit: Libraries and Essays for Exploring the Technology and Ethics Behind AI. *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 39, no. 28, pp. 29013-18. <https://doi.org/10.1609/aaai.v39i28.35171>.

Owen Hoffman, Kangze Peng, **Zehua You**, Sajid Kamal, and Sukrit Venkatagiri (2025). Promoting Online Safety by Simulating Unsafe Conversations with LLMs. *Proceedings of ACM Conference on Conversational User Interfaces Workshop on Personas Evolved: Designing Ethical LLM-Based Conversational Agent Personalities (CUI 25)*. pp. 1-5, ACM. <https://doi.org/10.48550/arXiv.2507.22267>. (Manuscript accepted)

Owen Hoffman, Kangze Peng, Sajid Kamal, **Zehua You**, and Sukrit Venkatagiri (2026). TargetPractice: Simulating Conversations with LLMs can Protect Against Online Scams. *Proceedings of the CHI Conference on Human Factors in Computing Systems*. 27 pages, ACM. (Under review, Round-1 passed)

RESEARCH EXPERIENCE

Deepfake Perception Analysis – Understanding Human Response to AI Media

Sep 2025 – Present

Supervised by Dr. Sukrit Venkatagiri, Assistant Professor, Swarthmore College

A qualitative research project examining how people perceive and morally evaluate deepfake technology.

- Conducted qualitative content analysis on 25 participant interviews (13 transcripts, ~85,000 words) using Atlas.ti to examine emotional, ethical, and societal perceptions of deepfake technology.
- Designed and refined a codebook with 4 primary dimensions (consent, authenticity, impact, education) through iterative open and axial coding; achieved intercoder reliability (Cohen's $\kappa = 0.83$) across researchers.
- Translated coded data into thematic clusters and conceptual maps linking public perception with regulatory and design frameworks for AI media.
- Supporting a broader media ethics and AI perception initiative, contributing insights for future policy recommendations and human-centered AI design.

TargetPractice – Scam Prevention System

Jun 2025 – Aug 2025

Supervised by Dr. Sukrit Venkatagiri, Assistant Professor, Swarthmore College

An interactive system to train users in scam recognition using multi-agent LLM simulation

- Developed TargetPractice with LLM-based scammer-target dialogue simulation (OpenAI API), implementing a custom multi-agent framework among scammer, target, and feedback agents.
- Engineered role-specific prompt templates with a rule-based safety layer to enable dynamic yet controlled interactions, ensuring both authenticity and ethical safeguards.
- Designed and conducted a controlled experiment (N=150, 4 learning conditions), applying survey instruments and mixed-method statistical analysis (Python/pandas).
- Demonstrated significant learning gains, including +8% scam recognition, +19% self-efficacy, and +9% response efficacy compared to baseline.

Artificial Intelligence Toolkit (AITK) – AI Education Tool

Jun 2024 – Aug 2024

Supervised by Dr. Lisa Meeden, Professor and NSE Division Chair, Swarthmore College

An accessible toolkit to teach advanced AI concepts through lightweight, reproducible models.

- Implemented small-scale LLM architectures and word embedding models in Jupyter notebooks, enabling scalable execution both locally and on cloud platforms.
- Created custom notebook modules with step-by-step explanations, using the scaled-down models to break down complex AI architectures into approachable, instructional components.
- Integrated TensorFlow-based visualization modules to illustrate neural network training dynamics (loss curves, weight evolution), improving transparency of complex processes.
- Piloted the toolkit across 5 institutions; user testing reported >75% satisfaction on clarity, usability, and pedagogical value.

PROFESSIONAL EXPERIENCE

AI Research Institute at GRG Banking Co., Ltd.,

Guangzhou, China

Multimodal Learning Algorithm Researcher

Aug 2025 – Sept 2025

A robust system to improve information retrieval from video clips, focusing on multimodal learning methods and practical deployment.

- Researched foundational and state-of-the-art approaches (e.g., CLIP4CLIP, UCoFiA, Cap4Video) and assessed their suitability for real-world video retrieval applications.
- Implemented a Python/PyTorch prototype leveraging a convolutional backbone to extract coarse and fine features, combined with a UCoFiA-inspired cross-modal attention mechanism to enhance alignment.
- Designed and initiated the training/evaluation pipeline on the MSR-VTT benchmark dataset with standard retrieval metrics (Recall@K, MnR).

LEADERSHIP ACTIVITIES

Nodo Lab, Co-founder & Co-president

Sept 2023 – Present

A start-up company specializing in international trade and anti-odor technology.

- Negotiated with manufacturers and patent holders to secure product development partnerships and ensure IP compliance.
- Led the design of independent e-commerce websites, integrating product presentation, online payment, and customer engagement functions.
- Directed multi-platform digital marketing campaigns (TikTok, Rednote, YouTube), achieving ~3,000 monthly sales and expanding brand visibility to potential customers.

FUN. Inc., Founder & President

Aug 2021 – Present

A nonprofit targeting raising funds for underprivileged students.

- Organized and executed fundraising campaigns and educational workshops, leveraging digital platforms to scale impact.
- Provided English tutoring and academic counseling to underprivileged students, creating sustainable mentorship models.

Swarthmore Chinese Society, Co-president

Oct 2022 – May 2024

- Oversaw strategic planning, budgeting, and event execution for a 200+ member student organization.
- Initiated large-scale cultural activities, including Chinese Food Festivals, to foster intercultural exchange and strengthen community bonds between Chinese international students and domestic peers.

VOLUNTEERING EXPERIENCE

Swarthmore College International Student Center, OL Group Leader

Aug 2023

Pink, and Blue Foundation, Treasurer and Planning Commissioner

Dec 2018 – May 2022

Cokesbury Village Retirement Community, Activities Coordinator

Sep 2018 – Dec 2021

SKILLS

Programming Languages: Python | Java | MATLAB | HTML | CSS | JavaScript | C/C++

Machine Learning Frameworks: Scikit-Learn | PyTorch | TensorFlow

Data Science Libraries: Pandas | Numpy | Matplotlib | Seaborn

Languages: Cantonese | Mandarin Chinese | English