

# ZEHUA (ALEX) YOU

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500 College Avenue, Swarthmore, PA, 19081

## EDUCATION

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**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

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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

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**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

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**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

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**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

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**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

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**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