ARTEMIS PANAGOPOULOU

@artemisp@seas.upenn.edu artemisp.github.io/ linkedin.com/in/apanagop
scholar.google.com/apanagopoulou github.com/artemisp

EDUCATION

University of Pennsylvania, Philadelphia, PA

Doctor of Philosophy, Computer and Information Science *Aug, 2021 - Present*
Research Interests: Natural Language Processing, Computer Vision
Advisors: Chris Calllison-Burch, Mark Yatskar GPA: 3.97/4.

Master of Science in Engineering, Computer and Information Science *Jan, 2018 - Aug, 2020*
Thesis: *"Metaphor and Entailment: Looking at Metaphors Through the Lense of Textual Entailment"*
Advisor: Mitch Marcus GPA: 3.77/4.

Dual Degree in Artificial Intelligence *Aug, 2015 - Aug, 2020*
Bachelor of Applied Science (BAS), Computer and Cognitive Science.
Thesis: *"Best-First-Model-Merge: From Theory to Implementation and Application"*
Advisor: Mitch Marcus
Bachelors of Arts (BA) Honors, Cognitive Science
Thesis: *"Optical Flow Estimation from Event Based Cameras Using Deep Spiking Neural Networks"*
Advisor: Kostas Daniilidis
Bachelors of Arts (BA) Honors, Philosophy
Thesis: *"On the suitability of Generative Difference Making for addressing challenges in Artificial Intelligence and Robotics."*
Advisor: Lisa Miracchi
Minor in Mathematics GPA: 3.59/4.

RESEARCH EXPERIENCE

Research Scientist Intern *May, 2023 - August, 2024*
Salesforce, Palo-Alto CA

- Conducted multimodal AI research under the supervision of Dr. Juan Carlos Niebles.
- Led three projects: two involving models that combine vision, language, audio, and 3D, resulting in an ECCV publication and an ARR (ACL) submission; and one on Visual Programming, currently pending submission to CVPR.
- Contributed to a CVPR publication on contrastively training a model on 3D point clouds and text.

Research Assistant *May, 2019 - May, 2020*
General Robotics, Automation, and Sensing (GRASP) Lab, University of Pennsylvania

- Worked on estimating optical flow from event based cameras (supervised and unsupervised) using Spiking Neural Networks. (Supervisor: Prof. Kostas Daniilidis)

Research Assistant *May, 2019 - Aug, 2019*
*Kod*Lab, University of Pennsylvania*

- Developed a simulation for physically parameterized soft bellow-shaped robots with multiple degrees of freedom. (Supervisor: Prof. Daniel Koditschek)

AWARDS AND FUNDING

CTL Graduate Fellowship for Teaching Excellence *August, 2024*
AWS Research Funding for Fair and Trustworthy AI *May, 2023*
Alexa Taskbot Competition Finalist *February, 2022*
President's Engagement Prize *May, 2020*
Dean's List *Aug, 2017 - May, 2020*
Penn Engineering Exceptional Service Award *March, 2019*

PUBLICATIONS

- Panagopoulou, Artemis, Honglu Zhou, Silvio Savarese, Caiming Xiong, Chris Callison-Burch, Mark Yatskar, Juan Carlos Niebles. "Visual Unit Tests for More Robust Visual Programming', Under Review (2024)
- Panagopoulou, Artemis, Le Xue, Honglu Zhou, Silvio Savarese,Ran Xu, Caiming Xiong, Juan Carlos Niebles. "DisCRn: Evaluating Discriminatory Cross-Modal Reasoning in Audio, Video, Image, and 3D", Under Review (2024)
- Panagopoulou, Artemis, Le Xue, Ning Yu, Junnan Li, Dongxu Li, Shafiq Joty, Ran Xu, Silvio Savarese, Caiming Xiong, Juan Carlos Niebles. "X-InstructBLIP: A Framework for Aligning X-Modal Instruction Aware Representations to LLMs and Emergent Cross-modal Reasoning", Accepted to European Conference on Computer Vision (2024)
- Panagopoulou, Artemis*, Coby Melkin*, and Chris Callison-Burch. "Evaluating Vision-Language Models on Bistable Images." In Proceedings of The 13th edition of the Workshop on Cognitive Modeling and Computational Linguistics (CMCL 2024) **Best Paper Award**
- Xue, Le, Ning Yu, Shu Zhang, Artemis Panagopoulou, Junnan Li, Roberto Martín-Martín, Jiajun Wu, Caiming Xiong, Ran Xu, Juan Carlos Niebles, Silvio Savarese." ULIP-2: Towards Scalable Multimodal Pre-training for 3D Understanding" Accepted to Conference in Computer Vision and Pattern Recognition (2024)
- Chakrabarty, Tuhin, Arkadiy Saakyan, Olivia Winn, Artemis Panagopoulou, Yue Yang, Marianna Apidianaki, and Smaranda Muresan. "I Spy a Metaphor: Large Language Models and Diffusion Models Co-Create Visual Metaphors." In The 61st Annual Meeting Of The Association For Computational Linguistics. 2023.
- Yang, Yue, Artemis Panagopoulou, Shenghao Zhou, Daniel Jin, Chris Callison-Burch, and Mark Yatskar. "Language in a Bottle: Language Model Guided Concept Bottlenecks for Interpretable Image Classification." Accepted to Conference in Computer Vision and Pattern Recognition (2023)
- Yue Yang*,Artemis Panagopoulou*, Marianna Apidianaki, Mark Yatskar and Chris Callison-Burch. "Visualizing the Obvious: A Concreteness-based Ensemble Model for Noun Property Prediction." Findings of EMNLP 2022.
- Panagopoulou, Artemis, Manni Arora Li Zhang Dimitri Cugini, Weiqiu You, Yue Yang Liyang Zhou, Yuxuan Wang Zhaoyi Hou, Alyssa Hwang, Lara Martin, Sherry Shi Chris Callison-Burch, and Mark Yatskar. "QuakerBot: A household dialog system powered by large language models", Alexa Prize TaskBot Challenge Proceedings (2022)
- Yue Yang, Artemis Panagopoulou, Qing Lyu, Li Zhang, Mark Yatskar, Chris Callison-Burch (2021). "Visual Goal-Step Inference using wikiHow." EMNLP 2021 (Oral).
- Yang, Yue, Joongwon Kim, Artemis Panagopoulou, Mark Yatskar, and Chris Callison-Burch. "Induce, edit, retrieve: Language grounded multimodal schema for instructional video retrieval." arXiv preprint arXiv:2111.09276 (2021)

- Chaney, Kenneth, Artemis Panagopoulou, Chankyu Lee, Kaushik Roy, and Kostas Daniilidis. "Self-supervised optical flow with spiking neural networks and event based cameras." In 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pp. 5892-5899. IEEE, 2021.

PATENTS

- Systems and methods for multi-modal language models US/18400477
- Provisional Patent Application: Systems and Methods for Visual Programming (63/681,721)
- Provisional Patent Application: Systems and Methods for Training and Evaluating Multimodal Neural Network Based Language Models (63/656,510)

SELECTED INVITED TALKS

Vision Language Models Workshop *Feb, 2025*
Women in Data Science Conference (WiDS), Philadelphia PA
Bridging vision and language: Advances and Challenges *Dec, 2024*
Princeton University, Princeton NJ
Advancing Multimodal AI: Integrating Modalities, Tackling Complex Challenges, and Enhancing Interpretability *Sep, 2024*
University of Pennsylvania, Philadelphia PA

ACADEMIC SERVICE

Reviewed for **ACL ARR**(February, August 2024)
Reviewed for Student Research Workshop at the Annual Meeting of the Association for Computational Linguistics (**ACL SRW**, 2023,2024)
Reviewed for The 61st Annual Meeting of the Association for Computational Linguistics (**ACL**, 2023)
Reviewed for Multimodal Agents Workshop (**ECCV**, 2024)
Reviewed for **COLING**, 2025

TEACHING EXPERIENCE

Teaching Assistant *Aug, 2024 - Present, and*
Course: *CIS 530: Natural Language Processing* *Aug, 2022 - Dec, 2022*
Instructor: *Prof. Mark Yatskar*

Instructor *Sept, 2022 - Dec, 2022*
Prison Teaching Initiative at Princeton University, Southwoods State Prison
Instructors: *Artemis Panagopoulou, Joe Abatte, Uthsav Chitra*

Elementary School Instructor *Aug, 2021 - May, 2022*
Python Coding Curriculum at Kohelet Yeshiva School (4-5 grade)
Instructor: *Artemis Panagopoulou*

Teaching Assistant *Jan, 2022 - May, 2022*
Course: *CIS 700: Interactive Fiction and Text Generation*
Instructor: *Prof. Chris Callison-Burch, Dr. Lara Martin*

Teaching Assistant *Aug, 2021 - Dec, 2021*
Course: *CIS 521: Introduction to Artificial Intelligence*
Instructor: *Prof. Chris Callison-Burch*

Head Teaching Assistant *Aug, 2018 - May, 2019*
Course: *MCIT 592: Mathematical Foundations of Computer Science*
Instructor: *Prof. Val Tannen*

Teaching Assistant *Jan, 2018 - May, 2018*
Course: *CIS 262: Automata, Computability, and Complexity*
Instructor: *Dr. Nima Roohi*

LEADERSHIP AND ACTIVITIES

Advancing Women in Engineering (AWE), Board Member *August 2023 - Present*
Association of Alumnae (AofA), Board Member *May 2023 - Present*
Alexa Taskbot Competition [Finalist] *Aug 2021 - May 2022*
Mind, Intelligence, Research, and Analysis (MIRA) Group *May 2018 - Aug 2019*
Women in Computer Science (WiCS) *Jan 2019 - May 2019*