ARTEMIS PANAGOPOULOU

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EDUCATION

University of Pennsylvania, Philadelphia, PA *August 2021 - May 2025 (expected)*
PhD, Computer and Information Science
Research Interests: Natural Language Processing, Computer Vision

University of Pennsylvania, Philadelphia, PA *August 2018 - May 2020*
Master's of Science in Engineering (MSE), Computer and Information Science
Thesis Title: *"Metaphor and Entailment: Looking at Metaphors Through the Lense of Textual Entailment"*

University of Pennsylvania, Philadelphia, PA *August 2015 - May 2019*
Bachelor of Applied Science (BAS), Computer and Cognitive Science.
Thesis Title: *"Best-First-Model-Merge: From Theory to Implementation and Application"*
Bachelors of Arts (BA), Cognitive Science (Honors)
Thesis Title: *"Optical Flow Estimation from Event Based Cameras Using Deep Spiking Neural Networks"*
Bachelors of Arts (BA), Philosophy (Honors)
Minor in Mathematics

INDUSTRY EXPERIENCE

Co-founder and Software Developer *Sept 2019 - Aug 2021*
Aarogya LLC, Philadelphia, US and Bangalore, India

- Co-founded Aarogya Med Access, a non-profit health-tech social enterprise creating India's first medicine redistribution platform, enabling low-income patients to access essential medicines at extremely affordable prices while preventing wastage of medicines lying unused in warehousing inventories.

RESEARCH EXPERIENCE

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

- Exploit winner-take-all mechanisms and multi-compartmental neural models to construct deep spiking neural network architectures for optical flow estimation.
- Employ dynamic neural fields for unsupervised object tracking on the Multi Vehicle Stereo Event Camera (MVSEC) dataset.
- Develop a modular codebase for experiments in spiking neural networks focusing on its integration with event based sensors using a PyTorch based library, Bindsnet.

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

- Performed a literature review on the control of soft robots with multiple degrees of freedom.
- Developed a simulation (MATLAB) for a physically parameterized soft bellow-shaped bot with multiple degrees of freedom.

Research Assistant *May 2018 - October 2018*
Computer Science Department, University of Pennsylvania

- Implemented Prof. Dana Angluin's K-reversible inference algorithm and applied it on the synthesis of Turkish morphology.
- The results presented in the article *Learning Finite State Morphology by Automata Induction* contributed as evidence to support the tolerance principle in language acquisition as it showed that learners require a moderately small input for learning, while larger samples pose challenges.

AWARDS AND FUNDING

Google exploreCSR (Computer Science Research) *November, 2019 - April, 2020*
Dean's List *August, 2017 - May, 2020*
CIS Faculty Appreciation Award *March, 2019*

TEACHING EXPERIENCE

Teaching Assistant *August 2021 - December 2021*
Course: *CIS 521: Introduction to Artificial Intelligence*
Instructor: *Prof. Chris Callison-Burch*

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

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

LEADERSHIP AND ACTIVITIES

Mind, Intelligence, Research, and Analysis (MIRA) Group *May 2018 - August 2019*

- Graduate philosophy research and training group focused on issues in philosophy of mind and language, cognitive science, and epistemology led by Professor Miracchi.

Women in Computer Science (WiCS) *January 2019 - May 2019*

- Acted as a mentor to freshman female computer science majors.

Ivy League Undergraduate Research Symposium *January 2018 - August 2018*

- Led an end-to-end application development project aimed to automate networking and scheduling for the symposium.
- Managed team of 3 developers with bi-weekly Agile sprints to build the Android application.
- Designed and built core backend, UI, and testing infrastructure.

Artificial Intelligence Journal Club *January 2018 - August 2018*

- Participated in a weekly academic reading group focused on research articles pertaining to Artificial Intelligence with a particular focus on ethical considerations.

PUBLICATIONS

Kenneth Chaney, Artemis Panagopoulou, Chankyu Lee, Kaushik Roy, and Kostas Daniilidis (2021). "Self-Supervised Optical Flow with Spiking Neural Networks and Event Based Cameras." (IROS 2021)' Yue Yang, Artemis Panagopoulou, Qing Lyu, Li Zhang,

Mark Yatskar, Chris Callison-Burch (2021). "Visual Goal-Step Inference using wikiHow." EMNLP 2021 (Oral).

PRESENTATIONS AND WORKSHOPS

Intel Neuromorphic Research Conference Graz, Austria *October, 2019*
Spiking Neural Networks University of Pennsylvania *August, 2019*

PROJECTS

Scavenger Hunt Robot: HRI Team *August - December, 2019*

- Built a HRI system that incorporates voice commands and a scratch-like interface for the operation of a robot performing tasks specified at the UT Austin Scavenger Hunt competition.

Natural Language Format-Transforming-Encryption *October - December, 2018*

- Encryption protocol aimed to obfuscate ciphertexts in the format of simple modal verb sentences in English.

Classification of News Articles by Political Affiliation December, 2018

- Classified articles from popular news websites according to political affiliation with 86% test accuracy.