

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

Advisors: Chris Callison-Burch, Mark Yatskar

GPA: 3.84/4

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"*

Advisor: Mitch Marcus

GPA: 3.77/4

University of Pennsylvania, Philadelphia, PA

August 2015 - May 2020

Bachelor of Applied Science (BAS), Computer and Cognitive Science.

Thesis Title: *"Best-First-Model-Merge: From Theory to Implementation and Application"* Advisor: Mitch Marcus

Bachelors of Arts (BA), Cognitive Science (Honors)

Thesis Title: *"Optical Flow Estimation from Event Based Cameras Using Deep Spiking Neural Networks"* Advisor: Kostas Daniilidis

Bachelors of Arts (BA), Philosophy (Honors)

Thesis Title: *"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 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.

INDUSTRY EXPERIENCE

Co-founder and Software Developer*Aug 2020 - 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.

Software Engineering Intern*January - August, 2018**I-Spirit, Athens, Greece*

- Provided technical support to clients, hosted training lessons for new clients
- Updated the product's UI (JavaFX application) to better integrate with Windows 10 design
- Contacted clients to collect user requirements to implement in the next release

AWARDS AND FUNDING

Alexa Taskbot Competition Finalist*February, 2022***President's Engagement Prize***May, 2020***Google exploreCSR (Computer Science Research)***November, 2019 - April, 2020***Dean's List***August, 2017 - May, 2020***CIS Faculty Appreciation Award***March, 2019***TEACHING EXPERIENCE**

Elementary School Instructor*August 2021 - May 2022**Python Coding Curriculum at Kohelet Yeshiva School (4-5 grade)**Instructor: Artemis Panagopoulou***Teaching Assistant***January 2022 - May 2022**Course: CIS 700: Interactive Fiction and Text Generation**Instructor: Prof. Chris Callison-Burch, Dr. Lara Martin***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

Alexa Taskbot Competition [Finalist]

August 2021 - May 2022

- Co-Lead University of Pennsylvania's Team for the Alexa Taskbot Challenge. We implemented a live Alexa Skill that guides users through tasks and recipes.
- Gained experience with Amazon Web Services (AWS) and Alexa Skills Kit (ASK).

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).*
- *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).*

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.