

Anna Gerchanovsky

Computer Science Ph.D. Student

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Education

Ph.D. Computer Science Duke University, <i>Durham, NC</i>	<i>(Expected) August 2024 –</i>
M.S. Electrical and Computer Engineering Carnegie Mellon University, <i>Pittsburgh, PA</i>	<i>August 2023 – May 2024</i> 4.00/4.00
B.S. Electrical and Computer Engineering, Minor in Computer Science Carnegie Mellon University, <i>Pittsburgh, PA</i> <i>University Honors</i>	<i>August 2019 – May 2023</i> 3.66/4.00

Research

Graduate Student Researcher Duke University	<i>(Expected) August 2024 –</i> <i>Durham, NC</i>
Research Intern Carnegie Mellon Cylab	<i>May 2023 – Present</i> <i>Pittsburgh, PA</i>

- Conduct literature reviews and analyze success of and recreate results of existing work in the field, while working on projects in adversarial machine learning for image classifiers and adversarial attacks inducing bias in large language models.
- Develop adversarial models and implement adversarial algorithms and evaluate performance of a variety of models.
- Present weekly progress reports to a group of professors, post doctoral fellows, and PhD students summarizing my work, analyzing results, and proposing next steps.

Teaching

Introduction to Computer Security Teaching Assistant Duke University	<i>(Expected) August 2024 –</i> <i>Durham, NC</i>
Introduction to Computer Security Teaching Assistant Carnegie Mellon Department of Electrical and Computer Engineering <i>Received Departmental Outstanding Teaching Assistant Award</i> Head TA Duties (as of August 2023)	<i>January 2022 – May 2024</i> <i>Pittsburgh, PA</i>

- Oversaw a team of 7 teaching assistants by distributing responsibilities and tasks.
- Held weekly meetings to manage task progress, establish responsibilities, and familiarize staff with upcoming material.
- Managed on boarding for new and returning course staff.
- Handled communication between course staff or students and instructors.

General TA Duties

- Set up and grade homework assignments on software security, cryptography, web security, and human factors in security.
- Held 2 hours of office hours weekly to assist students with assignments and course material, as well as monitored course forum and answer student questions - covering topics like assembly, buffer overflows, XSS attacks, and SQL injections.
- Led recitations to promote student understanding of course material via hands on activities.
- Developed material for and lead student bootcamps on cryptography.
- Proctored and grade three exams per semester.

Work Experience

Software Engineering Intern Meta	<i>May 2022 – August 2022</i> <i>Seattle, WA</i>
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- Established error and status logging for the general machine learning model processing team with the goal of analyzing project performance and progress.
- Wrote and tested object oriented code in Python.
- Improved test coverage for machine learning pipelines.

Automation Engineering Intern

Nucor Tubular Products

May 2021 – August 2021

Louisville, KY

- Integrated IBA suite for monitoring PLCs controlling plant performance.
- Documented changes made and communicating them to the team.
- Led training sessions for team members to build familiarity with the new IBA system.
- Executed daily report design and generation projects for several areas of the plant in order to better analyze and improve on past performance.

Mentorship

Peer Advisor

August 2023 – May 2024

Carnegie Mellon University Department of Electrical and Computer Engineering

Pittsburgh, PA

- Advised undergraduate students in the Electrical and Computer Engineering Department. Discussed course selection, program options, scheduling issues, work life balance. Referred students to appropriate resources when necessary.
- Hosted individual office hours and group advising sessions.
- Participated in events organized by the School of Engineering or Electrical and Computer Engineering Department.

Model Coordinator

August 2023 – April 2024

Lunar Gala

Pittsburgh, PA

- Facilitate the recruitment and audition process of the modeling department of the Lunar Gala student fashion show in Carnegie Mellon University.
- Provide feedback and support during semi-weekly team practice.
- Organize and design practice activities and choreography.

Tutor

August 2020 – December 2023

Young Tutoring

Remote

- Designed one-on-one lesson plans for students in K-12.
- Evaluated and measure student understanding and progress in a variety of subjects including computer science, math, and language arts.

Projects

Gender Bias in Gemma2b Social Media Content

[project report](#)

Course project developing tests for gender bias in the Gemma LLM while generating content relating to social media.

PyPi face-recognition Evasion

[github repo: agercha/EvasionAttacksFaceRecognition](#)

Evaluate and analyze raw accuracy of facial recognition on raw and edited datasets.

Storytime Video Generation

[github repo: agercha/StoryTimeGenerator](#)

Fine tuned GPT3 models to generate and film a specific genre of YouTube video.

Personal Art Website

[annagerchanovskaya.com](#)

Personal hobby website

Relevant Coursework

Foundations of Privacy

Graduate level course covering introductory privacy concepts like differential privacy, PATE, and federated learning

Secure Software Systems

Graduate level course covering the design and testing of secure software systems

Fantastic Bugs and Where to Find Them

PhD level discussion and project based course focused on bugfinding research

Ethics and Robotics

Graduate level discussion based course covering ethical ramifications of automation and AI

Art and Machine learning

Graduate level project based course covering applications of generative machine learning to art

Introduction to Machine Learning

Undergraduate level homework based course covering the implementation of various algorithms

Skills

Programming Languages Python, C, C++, C0, Swift, SML, JavaScript, CSS

Software Xcode, SystemVerilog, Matlab, Iba Suite