

Veronica Pimenova

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Education

Carnegie Mellon University, Pittsburgh, PA

Expected in May 2025

Bachelor of Science, *Information Systems and Human Computer Interaction*

Selected Coursework

Technical: Imperative Computation, Empirical Research Methods, Integration & Approximation (Differential Calculus), Calculus I & II, Reasoning with Data, Data Visualization, Database Design & Development

User Experience: Foundations in Software Engineering, Application Design & Development, Mobile Application Development, Human Centered Software Design, Media & Communication Design, Interaction Design

Languages

Programming: Java, Python, C/C#, Ruby, HTML, CSS, JavaScript, SQL

Spoken Languages: English, Russian

Research Experience

Principal Investigator, Carnegie Mellon Software and Societal Systems

September 2022 - Present

- Managed a study with 20+ participants, ran recruitment, user studies, statistical analysis (t-tests with R), literature review, and final paper writing to submit to the 2025 Conference on Human Factors in Computing Systems.
- Designed, developed, and tested an online accessible learning platform to teach basic programming skills to children with various types of neurodiversities (specifically focusing on ADHD and Autism).
- Guided a sub-team of 3 students and presented updates at weekly VariAbility lab meetings (~20 students).
- Utilized various ML models for segment and word detection of collected pedagogical videos via Scratch to develop a unique segmentation algorithm which was tested in the user study.

Student Researcher, Carnegie Mellon Decision Sciences Department

September 2023 - December 2023

- Lead a team of 6 undergraduate students in creating a research study which focuses on determining the correlation between grade fairness and student quality of life.
- Held bi-weekly meetings and created a final poster which was presented to 100+ undergraduate students.
- Completed a literature review of the World Happiness Report and other sources that were put into a Qualtrics survey with 50+ responses over a two week period.

Projects and Publications

- **“Enhancing Learning Platforms for Individuals with ADHD” (Principal Investigator)** - ran a study with 20+ participants to test the usability of a developed segmentation algorithm which is intended to help individuals with ADHD to learn basic programming concepts through block code (via Scratch).
- **“Neuroinclusive Documentation”** - work in progress with Carnegie Mellon University’s VariAbility Lab in creating an AI website that allows children with various disabilities to learn programming skills (September 2022-present). Published and presented at 2023 Carnegie Mellon Meeting of the Minds.
- **“Applying Computer Vision and Artificial Intelligence in Analysis of Sports Motion”** - this project used Temporal Action Segmentation and Computer Vision via Python libraries to create a program that scores a figure skater’s Grade of Execution (November 2021-May 2022). Published in 2022 PRSEF Proceedings.
- **“Optimized Design for Modern Fluorescent Paint with MINITAB through Six Sigma”** - used Six Sigma to create a more optimal fluorescent paint (September 2018-May 2019). Published in 2019 PRSEF Proceedings.

Technical Experience

Software Engineering Intern, Forevergreen

May 2024 - August 2024

- Developed and integrated backend services using Python to support the carbon calculator app, ensuring efficient data processing and storage..
- Translated Figma design specifications into interactive and responsive front-end components using TypeScript, enhancing user experience and interface consistency.

- Collaborated with cross-functional teams to debug and optimize code, improving application performance and reducing load times by 30%.

Machine Learning Intern, Velo AI

May 2023 - August 2023

- Searched through and sorted thousands of collected video data sets to use for social media promotion, with a goal of increasing exposure before the official product launch in October 2023.
- Used ML models and various Python libraries to load object lists and generate animation overlays on the selected data sets. Published the edited data onto LinkedIn to gain a 75% increase in visibility across the summer.
- Conducted field research and met with investors to do demo testing in the Pittsburgh and Silicon Valley areas and represented Velo AI while meeting with accessibility professionals at local tech companies such as Google, Inc.

Software Engineering Intern, Argo AI

May 2022 - August 2022

- Developed an updated IsLaneBlocking classifier (with a random forest model) that detects stopped vehicles that are not in motion for 10 or more seconds.
- Trained the classifier on thousands of collected data sets via collected video recordings and created a new ML pipeline (E2E) to sort the data.
- Used feature importance and model metrics such as F1 and accuracy to compare to the baseline.
- Wrote a Python script to filter log slice video data with specific parameters (such as time or classifier type) and ground truth, which improved efficiency of data collection and organization.

Volunteer Experience

User Interface & User Experience Team, Carnegie Mellon Scotty Labs

September 2022 - May 2023

- Attended weekly design team meetings and workshops to learn various skills in Figma from upperclassmen.
- Contributed to several design projects including Carnegie Mellon's biggest hackathon, Tartanhacks.

Java and Python Instructor, Steel City Codes

June 2021 - August 2021

- Organized and led a summer camp to teach Java through video game storytelling for underrepresented students of color and students on the Autistic spectrum.
- Taught 20 students over the course of two weeks of instruction (6 hours a day) with planned instructional material.

Leadership

Lead Mentor/Ambassador, Women in Information Systems

August 2023 - Present

- Organized mentorship opportunities for female students (including local high schoolers), fostering a supportive and collaborative community. Created informational workshop events and hosted 1:1 meetings with students.

Diversity, Equity, and Inclusion Chair, Carnegie Mellon Delta Delta Delta

August 2023 - December 2023

- Advocated for inclusivity by holding several meetings for 70+ members and promoted DEI-related events.
- Implemented strategies to allow for an open and welcoming environment for members with diverse backgrounds.

Website Developer, BoardDefense.io

November 2022 - May 2023

- Fully designed & implemented an end-to-end web and tablet-based quiz site for a local cybersecurity startup, aimed at streamlining board member's security knowledge with HTML, CSS, and SQL to make an intuitive site.
- Ran weekly team meetings with two cybersecurity experts (Senior VP of Cybersecurity & IT at Motional, Inc. and the Founder of Allegheny Digital) and a Psychology PhD student to discuss status updates & concerns.

Selected Technical Awards

- **Cornell University & Meta Reality Labs Award for XR Access Symposium, 2024.**
- **Global International Information System Security Certification Consortium Undergraduate Scholarship Winner, 2024.**
- **Octillo Women's Cybersecurity Award, 2023.**
- **Raytheon Intelligence & Space Award in Cybersecurity, 2022.**
- Honorable Mention, National Center for **Women & Information Technology Award (NCWIT) 2021.**
- Ranked 3rd and 12th in Pennsylvania, **Air Force Association CyberPatriot XIV and XIII Competitions.**
- Science National Honor Society (SV Chapter) **STEM Award for Advocacy of Women in Science, 2021.**
- **Winner, NCWIT for Aspirations in Computing (Pennsylvania), 2021.**
- **Rising Star, NCWIT for Aspirations in Computing (Pennsylvania), 2020.**