MARA LEVY

mlevy@umd.edu

EDUCATION

University of Maryland **College Park, MD**
Pursuing Ph.D. in Computer Science *September 2019 - Present*
Advisor: Abhinav Shrivastava

University of Pennsylvania **Philadelphia, PA**
School of Engineering and Applied Science - Bachelor of Science in Engineering *May 2019*
Major: Computer and Information Science *Minor:* Mathematics
Cumulative GPA: 3.84 / 4.00 (Summa Cum Laude and Tau Beta Pi)

RESEARCH EXPERIENCE

University of Maryland Institute for Advanced Computer Studies **College Park, MD**
Graduate Reseach Assistant *Advisor: Abhinav Shrivastava*
- Addressing robotic interaction with dynamic environments where changes in the environment are independent of the agent
- Utilizing waypoint information to do imitation learning from a small numberof examples with limited information

University of Pennsylvania: GRASP Lab **Philadelphia, PA**
Undergraduate Research Assistant *Advisor: Kostas Daniilidis*
- Used temporal video data to improve current key point detection done by "6-DoF Object Pose from Semantic Keypoints"
- After the data was improved we retrained the model to better image position estimates

University of Pennsylvania: "Crowdsourcing and Human Computation" **Philadelphia, PA**
Undergraduate Research Assistant *Advisor: Chris Callison-Burch*
- Used crowd-sourced data and programmatic analysis to identify and summarize key attributes of privacy policies
- Won best final project of 40+ projects and received $10,000 in research funding to increase span of project
- Paper was accepted as a work in progress paper to HCOMP 2017

PUBLICATIONS

P3-PO: Prescriptive Point Priors for Visuo-Spatial Generalization of Robot Policies **ICRA 2025**
Mara Levy, Siddhant Haldar, Lerrel Pinto, Abhinav Shrivastava

TREND: Tri-teaching for Robust Preference-based Reinforcement Learning with Demonstrations **ICRA 2025**
Shuaiyi Huang, Mara Levy, Anubhav Gupta, Daniel Ekpo, Ruijie Zheng, Abhinav Shrivastava

VeriGraph: Scene Graphs for Execution Verifiable Robot Planning **Under Submission**
Daniel Ekpo, Mara Levy, Saksham Suri, Chuong Huynh, Abhinav Shrivastava

NeRF-Aug: Data Augmentation for Robotics with Neural Radiance Fields **Under Submission**
Eric Zhu, Mara Levy, Matthew Gwilliam, Abhinav Shrivastava

Active Region Video Diffusion for Universal Policies **IROS 2024**
Shuaiyi Huang, Mara Levy, Zhenyu Jiang, Anima Anandkumar, Yuke Zhu, Linxi Fan, De-An Huang, Abhinav Shrivastava

WAYEX: Waypoint Exploration using a Single Demonstration **ICRA 2024**
Mara Levy, Nirat Saini, Abhinav Shrivastava

Coarse-to-Fine Human Mesh Recovery with Transformers **ECCV Workshop 2025**
Vatsal Agarwal, Mara Levy, Max Ehrlich, Youbao Tang, Ning Zhang, Ruei-Sung Lin, Abhinav Shrivastava

V-VIPE: Variational View Invariant Pose Embedding **CVPR Workshop 2024**
Mara Levy, Abhinav Shrivastava

No-frills Dynamic Planning using Static Planners **ICRA 2021**
Mara Levy, Vasista Ayyagari, Abhinav Shrivastava

PROFESSIONAL EXPERIENCE

Amazon **Arlington, VA**

Research Scientist Intern *May 2022 – November 2022*

- Worked as a part of the Alexa Prize Team
- Researched Human Pose Estimation in order to enable Alexa devices to correct pose when teaching a skill

University of Maryland, Department of Computer Science **College Park, MD**

Teaching Assistant – Introduction to Algorithms (CMSC 351) *September 2019 - December 2019*

- Held office hours twice a week to assist undergraduate students with class material

Flatiron Health **New York City, NY**

Software Engineering Intern *June 2018 – August 2018*

- Worked as a part of the Learning Healthcare Platform team to improve data flow within the company
- Wrote an API to allow engineers to document metrics from their pipelines into InfluxDB
- Designed a Flask app to query information about the current state of pipelines and help engineers debug

Google **Mountain View, CA**

Software Engineering Intern *May 2017 – August 2017*

- Worked as a part of the Google Lens Team on Google's Android Search App (AGSA)
- Wrote code to efficiently download images into AGSA and analyzed those images within the app
- Assisted in writing a server that connects the mobile application to a shared backend

HONORS AND ACHIEVEMENTS

- University of Maryland Dean's Fellowship
- Tau Beta Pi

RELEVANT COURSEWORK

- **Graduate:** Robotic Decision Making, Advanced Techniques in Visual Learning and Recognition, AI Planning, Computer Graphics
- **Undergraduate:** Data Structures & Algorithms, Linear Algebra, Computer Organization & Hardware, Crowdsourcing & Human Computation, Probability, Machine Perception