Mikayla Timm

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SUMMARY

Experienced in solving problems in research and industry using **machine learning**, **computer vision**, and **natural language processing** on large scale datasets. Proficient with **PyTorch**, **Python**, **Java**, **C, Git,** and **UNIX**. Two computer vision **publications** and **presentations** in **CVPR** workshops and two **applied ML** publications. Activist for **diversity** in computing. Delivered **research prototypes** and ML/computer vision **software systems** working both independently and on a team.

EDUCATION

University of Massachusetts Amherst SEPT 2017 - JAN 2020
M.S. in Computer Science | GPA: 3.968 Amherst, MA

University of West Florida AUG 2014 - MAY 2017
B.S. in Computer Science, Math Minor | GPA: 3.99 Pensacola, FL

EXPERIENCE

Systems and Technology Research, *Machine Learning Researcher* JAN 2020 - PRESENT

- Developed and integrated multi-target vehicle tracker and multi-task deep visual feature extractor into production pipeline for re-identifying vehicles in traffic camera videos, estimating proximity of cameras in traffic camera networks, and modeling traffic activity over time.
- Synthesized traffic camera video data at scale using Unity game engine perception tools.
- Trained robust deep reinforcement learning agents in Unity wargame environments using graph-based representations. Improved training speed and performance by optimizing game state representations and reducing message-passing overhead.

University of Massachusetts Amherst, *Graduate Research Assistant* SEPT 2017 - JAN 2020

- Trained deep learning models for classifying attributes of textures, generating natural language descriptions of texture images, and image retrieval from natural language.
- Collected two novel vision and language datasets using Amazon Mechanical Turk.
- Developed end-to-end pipeline for labeling, training, and classifying animal species in camera trap images for ecology researchers.

Pinterest, Inc., *Machine Learning Research Intern* MAY 2019 - AUG 2019

- Trained and evaluated new and existing computer vision models for fashion image retrieval and recommendation systems using image embeddings conditioned on specific attributes (color, pattern, fabric).
- Implemented and deployed data pipeline for processing and visualizing new fashion datasets.
- Utilized AWS EC2 P3 instances to efficiently train distributed deep models in the cloud.

MIT Lincoln Laboratory, *NLP Summer Research Intern* JUNE 2017 - AUG 2017

- Researched NLP techniques to generate word embeddings on inherently multilingual data.
- Designed a pipeline for preprocessing multilingual text corpora, training new embeddings, performing intrinsic evaluations, and visualizing embeddings with dimensionality reduction.

University of West Florida, *Undergraduate Research Scholar* MAY 2016 - MAY 2017

- Applied ML to classify biometric data from simulated wearable device cyber attacks.
- Implemented supervised learning algorithms to predict outcomes of animals in shelters.

University of Massachusetts Amherst, *NSF REU Summer Researcher* MAY 2015 - AUG 2015

- Automated the identification of individual jaguars in images using computer vision.

HONORS AND AWARDS

NSF GRFP Honorable Mention. **CVPR** Women in Computer Vision Research Travel Grant. **CRA-W** Grad Cohort Workshop Award. **UMass CICS** Edward Riseman and Allen Hanson Scholarship. **Grace Hopper Celebration of Women in Computing** Scholar. UWF **Outstanding Undergraduate Student** in Comp Sci. UWF **Best Student Research Project** in Comp Sci. **1st Place** in **ACM ICPC** Southeast Division 2.