



Eashan Adhikarla

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OBJECTIVE

To acquire a challenging summer internship position utilizing my skills in Machine Learning, Data Science, and Information Retrieval.

EDUCATION

Lehigh University Ph.D. in Computer Science (Machine Learning)	Bethlehem, PA Aug 2020 - Present
Lehigh University, GPA - 3.6/4.0 M.S. in Computer Science	Bethlehem, PA Aug 2018 - May 2020
Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV), GPA - 3.7/4.0 B.E. in Computer Science	Bhopal, MP Aug 2013 - May 2017

EXPERIENCE

National Science Foundation <i>Peer Mentor</i> , (Supervisor: Dr. Brian D. Davison) <ul style="list-style-type: none">• Mentoring and closely guiding 15 NSF-REU Interns on-site project.• CNS-1757787 - Award	Bethlehem, PA May 2020 - Aug 2020
Resilience Research Group for SARS-CoV-2 <i>Research Assistant</i> , (Supervisor: Dr. Brian D. Davison) <ul style="list-style-type: none">• Image Gathering for face masks in the United States and designing a novel face-mask detection algorithm for a data science survey research on SARS-CoV-2.• NSF Award 1841338 - Cultural-Perceptions-of-Risk-Behavioral-Responses	Bethlehem, PA May 2020 - Aug 2020
Lawrence Berkeley National Laboratory (LBNL) <i>Research Intern (NERSC)</i> , (Supervisor: Dr. Brian Austin) <ul style="list-style-type: none">• Developed scripts to fetch and analyze petabytes of data from the SLURM scheduler.• Analyzed & estimated real-time queues in the scheduler for optimizing the policies for incoming jobs.• Developed three real-time policies that potentially improved the allocation procedure.	Berkeley, CA May 2019 - Aug 2019
Persistent Systems <i>Machine learning Intern — Software Engineering</i> <ul style="list-style-type: none">• Developed a facial recognition and verification system using Google's FaceNET research as the baseline which can directly learn from the 128x128 low dimensional representation.• Added additional OpenCV features on top of it, which can differentiate between 3-D and 2-D images (a drawback of Google's FaceNET)• Designed a purely browser-based RSA compliant module to work with FIDO keys.	Pune, MH May 2019 - Aug 2019

RESEARCH PROJECTS

Auto-encoder with Memory Defense for White-box Adversarial Attacks Aug 2020

- Designed a robust auto-encoder for detecting adversarial images to mitigate adversarial attacks in a machine learning model.
- Designed a close proximity approximation estimator which can distinguish between distinct and distance manifold from different classes.

Sequence Generative Adversarial Nets with Policy Gradient Jan 2020

- Seq-GAN is a unique approach which models the data generator as a stochastic policy in reinforcement learning to solve the problem with improvements in pre-processing.
- The RL reward signal comes from the GAN discriminator judged on a complete sequence, and is passed back to the intermediate state-action steps using Monte Carlo search.

Facial Recognition and Verification System Jan 2017

- Working with the accuracies and flaw removal strategies with re-implementation of Open-Face, for improving the range of applications in the domain of Security.
- Resolved the false positive 2-D inputs by introducing more features in Stage 1 (face detection) as a.) Orientation Normalization b.) 3D surface representation.

PUBLICATIONS

- Autoencoder with Memory Defense against White-box Adversarial Attacks*, *In progress for International Joint Conference on Artificial Intelligence (IJCAI), 2021*
- Estimating an HPC Facility's Capacity For Accommodating Real-time Workflows, [Thesis](#), *National Energy Research Scientific Computing (NERSC), 2019*

PEER REVIEW

- IEEE Big Data Conference Fall 2020

SKILLS

Programming Languages - C++, Python, Bash, Scala

Web Backend Technologies - MySql, MongoDB, NoSQL, HTML5.

Web Frontend Technologies - Pytorch, Tensorflow, OpenCV, dlib, Boost-C++, Cmake, scikit-learn, Apache Spark, git, Latex

TEACHING

- CSE 017 - Programming and Data Structures Fall 2020
- CSE 017 - Programming and Data Structures Fall 2019
- CSE 160 - Introduction to Data Science Spring 2019
- CSE 001 - Breadth of Computing Fall 2018