VARSHINI REDDY

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EDUCATION

Harvard University, Cambridge, MA Expected May 2023
M.S. Data Science
Relevant Coursework: Data Science, Computer Vision, Bayesian Inference, Reinforcement Learning, Stats for Finance, Systems Development

National Institute of Engineering, India 2014 -2018
B.Eng. Computer Science & Engineering
Relevant Coursework: Algorithms and Data Structures, Python, Database Management, Networking, Automata Theory, Software Engineering

DATA SCIENCE PROJECT AND RESEARCH EXPERIENCE

Harvard University, Graduate Research *Sept 2022 - Present*
Black Hole Parameter Prediction
- Applied convolutional and sequential language models to predict physical parameters (spin & magnetization) of a black hole

Harvard University, Data Science Capstone Project *Sept - Dec 2022*
Satellite Imagery Generation
- Worked in collaboration with Microsoft Data Science for Good Lab
- Generated synthetic high resolution satellite images using the SPADE GAN architecture

Memorable.AI, Data Science Internship *Jun - Aug 2022*
Interpretation of Memorability of Images
- Project to generate recommendations to improve picture and video advertisement by understanding what elements of the input the CNN takes into consideration to predict the level of human memorability

Harvard University, StellarDNN Lab *Oct 2021 - Feb 2022*
Reduction of Cost of Information in Analysis of Variable Phenomena
- Applied Reinforcement Learning to classify and prioritize transient objects in order to take informed decisions regarding allocation of limited spectroscopic resources among other resources

Indian Institute of Science, Research Associate *Aug 2018 - Jan 2019*
Hybrid Behavioral Features for Churn Prediction in Mobile Telecomm Networks
- Project to understand the behavior of customers through features based on social influence and changes in both - call usage patterns and social groups for predicting churn

National Institute of Engineering, Final Year Project *Jan - Apr 2018*
Lane Detection and Switching in Self Driving Cars
- Project to detect and change lanes by mapping of steering angle of a car with the surrounding environment from video data

Hewlett Packard Enterprise, R&D Intern *Aug 2016 - Mar 2017*
Forensic Analysis of Security Attacks
- Performed a comprehensive survey of security attacks types, mode of occurrence and efficient methods to analyze them
- Proposed an efficient and scalable algorithm to prevent a Denial of Service Attack

PUBLICATIONS

- "*Malware detection and classification using community detection and social network analysis*", Journal of Computer Virology and Hacking Techniques, 1-14, DOI: 10.1007/s11416-021-00387-x
- "*Success of Uncertainty-Aware Deep Models Depends on Data Manifold Geometry*", International Conference on Machine Learning. PMLR 162 (2022)
- "*Hybrid Behavioural Features for Churn Prediction in Mobile Telecomm Networks with Data Constraints*", Proceedings of the Second International Conference on Security and Privacy, ISEA-ISAP 2018, DOI: 10.1007/978-981-13-7561-3
- "*Simulation of Lane-switching in Self-Driving Automobiles*", International Journal of Scientific Research in Computer Science, Engineering and Information Technology 2018, DOI: 10.32628/CSEIT184634

SKILLS

Python (Tensorflow, PyTorch, Numpy, Pandas, Matplotlib, Sklearn), C++ • HTML/CSS, JavaScript • MySQL, MongoDB • AWS