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MAYUR SHASTRI

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EDUCATION

University of Massachusetts, Amherst Expected Graduation: May 2021
M.S. Computer Science | GPA: 3.8/4.0
Graduate coursework: Neural Networks, Machine Learning, Applied Statistics, Mobile and Ubiquitous Computing

Vellore Institute of Technology, Vellore July 2015 - May 2019
B.E. Computer Science and Engineering | GPA: 3.9/4.0
Undergraduate coursework: Data Structures and Algorithms, Parallel and Distributed Systems, Software Engineering

WORK EXPERIENCE

Fractal Analytics Inc. – New York, New York May 2020 – Present

Software Engineer Intern - Machine Learning

- Developing a tool to perform object detection using PyTorch on real-time drone footage to detect if social distancing protocols are being followed as part of public health guidelines.
- Initial model results show an increase in Average Precision (mAP) by 30% while benchmarked on the ImageNet and VisDrone datasets with an Intersection over Union (IoU) threshold of 70%.

CMS Computers Ltd – Mumbai, India Jun 2017 – Aug 2017

Data Science Intern

- Developed a smart parking application using Python that performed vehicle detection and classification to accurately estimate the number of vehicles that can be accommodated in an open parking space.
- The solution created parking slots in open spaces and calculated the number of different vehicles that could be parked in the open space using a camera feed.
- The results of the application deployed in the growing city of Mumbai showcased an 91% accuracy while classifying vehicles and reduced average time waiting for a parking spot by 45%.

Tata Institute of Fundamental Research – Mumbai, India Jun 2016 – Aug 2016

Software Engineering Intern

- Researched various static analyser tools to intercept critical inter-procedural bugs and other errors in the software code.
- Leveraged the tools to perform checks for resource leaks, missing lock guards and concurrency race conditions in Java and JavaScript code that reduced cost to fix bugs by 45%.
- Deployed the automated tool on a REST API web service built using Node.js and AngularJS that spot bugs in source code by scanning programs without running them.

PROJECTS

Data Augmentation using Deep Convolutional GANs

- Generated augmented datasets that had similar distributions to the original datasets by performing Data Augmentation using Deep Convolutional Generative Adversial Networks (DCGANs).
- Achieved state of the art level Specificity and Sensitivity scores while also leveraging generated augmented images to achieve a top-3 accuracy rate of 78.65% for hemorrhage detection.

HouseMD

- Developed a web and mobile application using ReactJS and Node.js to help diagnose diseases that may have patients in remote rural areas in India.
- Reduced cost of diagnosis per patient by 40% by computing the probability of a disease or possible epidemic outbreaks in the remote region using Apriori and Regression algorithms.

Enigma

- Developed the backend ecosystem for an online cryptic hunt on Node.JS and MongoDB which has been hosted as an annual competition for 4 years running.
- Engineered regression models for performing tasks such as cheating prediction and awarding hints for users as bonuses.

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, JavaScript, HTML, CSS, PHP, C, C#, SQL
Frameworks: React, jQuery, VueJs, AngularJS, Node.js, Express.js, Spring, Laravel, Django
Tools and Technologies: Android, XCode, MySQL, MongoDB, Docker, Kubernetes, Unreal Engine, Unity, Ethereum, Git
ML Libraries: Numpy. PyTorch, TensorFlow, Scikit-learn, Pandas, NLTK, Caffe