SANTOSH VASA

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EDUCATION

Northeastern University, Khoury College of Computer Sciences Boston, MA
Master Of Science (GPA - 4.0/4.0) May 2023
Teaching Assistant - Natural Language Processing (Graduate Course)
Related courses: Algorithms, Artificial Intelligence, Computer Vision, Programming Design and Paradigm,

Jawaharlal Nehru Technological University Hyderabad, India
Bachelor Of Technology (GPA - 8.73 / 10) April 2019
Related courses: Image Processing, Web Programming, Data Structures - C, OOP - Java, Computational Mathematics

TECHNICAL KNOWLEDGE

Languages : Python, Java, C++, SQL
Libraries and Frameworks : TensorFlow, PyTorch, Sci-Kit Learn, Keras, OpenCV, TensorRT, TFLite
Artificial Intelligence : Computer Vision, Natural Language Processing (NLP), Deep Learning, Neural Networks, Sequence Models, Generative Adversarial Networks, Reinforcement Learning, Audio Processing, Machine Learning (ML), Robotics
Application Development : Django, Flask, JSwing
Certification : Deep Learning Specialization by deeplearning.ai

WORK EXPERIENCE

WIPRO LTD. (EXIMIUS DESIGN) Bangalore, India
L2 - Software Engineer (Deep Learning) October 2018 - August 2021

- Lead a team of 6 interns and Implemented surveillance and automated attendance systems using CV and NLP techniques
- Daily routine involved reading novel deep learning research literature and replicate feasible solutions. This involved optimizing data loading (ETL), training and inference processes of Face Recognition and Object detection workloads on GPU and CPU.
- Developed extensively with TensorFlow, PyTorch, OpenCV, Keras, Microprocessors, and Microcontrollers (RPi, Node MCU, Neural Compute Stick)

PROJECTS

DEPTH ESTIMATION USING STEREO VISION Boston, MA
Northeastern University April 2022 - May 2022

- Established a calibrated and uncalibrated stereo setups using OpenCV
- Utilizing PyTorch and OpenCV, Applications such as Depth Map Estimation, 3D Video, 3D Point Cloud, 3D- Reconstruction, Object Detection and Obstacle Avoidance were then built around the setup

DIGITAL DETOX ASSISTANT USING DEEP CONTEXTUAL WORD REPS Boston, MA
Northeastern University October 2021 - December 2021

- Devised a framework to determine whether a web page is relevant to a user's profession
- Utilized TensorFlow, Spacy, NLTK, Selenium, Sci-kit Learn, NumPy to scrape a user's webpage and compare it to user's portfolio

FACE ATTRIBUTE GENERATION USING GANS Bangalore, India
Wipro Ltd. August 2020 - March 2021

- Generated five different face attributes such as beard, spectacles, mustache, and more using Generative Adversarial Networks based on unpaired image to image translation
- Trained various GANs on Linux servers (Nvidia HPCs) by leveraging TensorFlow's and PyTorchefficient data APIs

DEEP FACE RECOGNITION SYSTEM Bangalore, India
Wipro Ltd. May 2019 - December 2019

- Built an application to collect face image data of Identities with eight required face orientations. The system uses unsupervised learning to cluster real-time face images into classes
- Incorporated mobile-friendly precision quantized neural network architecture with 99.4% (on LFW) for inference on the edge. The architecture was developed and trained from scratch on VGG Face 2 and MS-Celeb using in-house CUDA compatible server GPU
- Profiled, analyzed and re-iterated to optimize the model for latency and accuracy. In comparison to the initial model, the resultant model is 27 times smaller and has 4 times faster inference on edge CPU
- Re-purposed the existing codebase to make long-range surveillance mask detection. The system incorporated a highly accurate Retina-Face face detector designed to detect small and low-resolution objects (faces)