Suriya Narayanan Lakshmanan

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EDUCATION

CMU, ROBOTICS INSTITUTE
Master's in Computer Vision
Dec 2018 | Pittsburgh, PA
Cum. GPA: 3.83/4.0

NIT, TIRUCHIRAPPALLI
Bachelor of Technology in Electrical and Electronics Engineering
May 2014 | Tiruchirappalli, India
Cum. GPA: 8.8 / 10.0

COURSEWORK

Intro to Machine Learning
Intro to Computer Vision
Math fundamentals for Robotics
Visual Learning and Recognition
Deep Reinforcement Learning
Geometry based maths in Vision
Computational Photography

Algorithms and Data Structures
Operating Systems
Object Oriented Programming
Digital Signal Processing

SKILLS

PROGRAMMING
C • C++ • Python • Matlab • LaTeX

LIBRARIES
TensorFlow (Python and C++) • PyTorch • OpenCV • Numpy • scikit-learn

OPERATING SYSTEMS
Linux • Windows • Android

OTHER SOFTWARE
Git • Microsoft Office • GIMP

EXPERIENCE

SAMSUNG RESEARCH AMERICA | Computer Vision Research Intern
May 2018 - August 2018 | Mountain View, USA

- Developed human pose datasets for proprietary sensors using unsupervised domain adaptation, tuned Openpose and developed people tracking

TEXAS INSTRUMENTS | Software Engineer
July 2014 - June 2017 | Bangalore, India

- Improved accuracy of TI CNN model for driver drowsiness detection by 2x
- Improved Adaboost classifier for object detection yielding 10% more true detections. [Efficient object detection and classification on low power embedded systems, ICCE 2017]
- Developed a set of Image Processing modules. [Understanding the Performance Benefit of Asynchronous Data Transfers, HiPC 2015]

TEXAS INSTRUMENTS | Computer Vision Intern
May 2013 – July 2013 | Bangalore, India

- Improved an existing homography based Ground Plane Detection by 10%. [Ground plane detection, Patent 2017]. [Improved ground plane detection in real time systems using homography, ICCE 2014]

ACADEMIC PROJECTS

WEAKLY SUPERVISED OBJECT DETECTION
March 2018 - March 2018 | CMU, Pittsburgh
Implemented weakly supervised object detection algorithm: WSDDN

INTERSECTION RECONSTRUCTION FROM SINGLE STATIONARY CAMERA
January 2018 - May 2018 | CMU, Pittsburgh
Reconstructed traffic intersection from a single stationary camera using keypoint detetion, tracking and geometric constraints

LEARNING HIERARCHICAL POLICIES IN DYNAMIC ENVIRONMENTS
March 2018 - May 2018 | CMU, Pittsburgh
Developed an RL agent that can quickly adapt to a dynamic environment with sparse reward

INTELLIGENT INPAINTING
October 2017 - November 2017 | CMU, Pittsburgh
Developed an application that removes a person from an image from a single click

NETWORK REGULARISATION FOR ALIGNED OBJECTS
September 2017 - October 2017 | CMU, Pittsburgh
Regualized deep networks using a developed technique that induces sparsity

AUGMENTED REALITY
September 2017 – October 2017 | CMU, Pittsburgh
Created an AR application from scratch on Matlab

PANORAMA
September 2017 – October 2017 | CMU, Pittsburgh
Developed code for panorama creation from scratch on Matlab

SCENE CLASSIFICATION
September 2017 | CMU, Pittsburgh
Performed scene classification using Spatial Pyramid Matching from scratch