Suriya Narayanan Lakshmanan

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EDUCATION

CMU, ROBOTICS INSTITUTE
Master's in Computer Vision
Dec 2018 | Pittsburgh, PA
Cum. GPA: 3.56/4.0

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

SKILLS

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

LIBRARIES
OpenCV • Numpy • Keras • TensorFlow • scikit-learn

OPERATING SYSTEMS
Linux • Windows • TI sysBIOS • Android

PACKAGES
Eclipse • GIMP • Microsoft Office • Git

FRAMEWORKS
OpenCL • TI Vision SDK

EXPERIENCE

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 OpenCL kernels optimized for TI DSP. *[Understanding the Performance Benefit of Asynchronous Data Transfers in OpenCL Programs Executing on Media Processors, HiPC 2015]*
- Accelerated OpenCV using OpenCL, boosting performance by 3x over ARM A15
- Released the above accelerated functions as applications in TI Vision SDK

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

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 and speeds up computation

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

STRUCTURE FROM MOTION
January 2014 – April 2014 | NIT Tiruchirappalli, India
Developed Structure from Motion algorithm from scratch in C++

REAL-TIME SUDOKU SOLVER
August 2013 – August 2013 | NIT Tiruchirappalli, India
Created an android application that searches for sudoku mesh in its camera view and solves upon detecting one
Realtime Sudoku Solver on Play Store