

Phani Krishna Uppala

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SELECTED PUBLICATIONS

J Kundu*, **P K Uppala***, A Pahuja, V Babu. AdaDepth: Unsupervised Content Congruent Adaptation for Depth Estimation, IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018 [**SpotLight**]. * Equal Contribution.

KR Mopuri*, **P K Uppala***, V Babu. Ask, Acquire and Attack: Data-free UAP generation using Class impressions. (**ECCV 2018**). * Equal Contribution.

J Kundu, M Gor, **P K Uppala**. Unsupervised Feature Learning of Action Sequences as Trajectories in Pose Manifold. (**IEEE WACV 2019**)

K Neeraj, **P K Uppala**, D Karthik, V Vishal, G Grace, W Michael, S Amit. Semi-supervised Segmentation of Hyperspectral Tissue Images. (**IEEE TMI 2019**)

OPEN SOURCE CONTRIBUTIONS

- **TensorFlow - CLEVER HANS**

By Ian Goodfellow and Nicolas Papernot about security and privacy in machine learning. Part of the developers group, adding the state-of-the-art algorithms to the tensorflow library to help researchers test their deep learning models and accelerate the research.

EDUCATION

- **Indian Institute of Technology Guwahati** Guwahati, India
B.Tech(Hons.) in Engineering in Electrical and Electronics; GPA: 3.56 (8.91/10.0) *Aug. 2012 – July. 2016*

EXPERIENCES

- **NAVER** Seoul, South Korea.
Research Associate *July 2018 - Present*
 - **Text Recognition:** Implementing the state of the art text recognition papers and trying to improve upon them by developing new algorithms.
- **Video Analytics Lab** Bengaluru, India.
Research Associate *July 2017 - July 2018*
 - **AdaDepth:** Unsupervised domain adaptation strategy for the pixel-wise regression task of monocular depth estimation. (**CVPR18, Spot Light**)
 - **Ask, Acquire and Attack:** Crafting data free image agnostic perturbations, making the adversarial attacks feasible in practical scenarios. (**ECCV18, In Submission**)
 - **Top View Estimation:** Estimating the top-view of indoor scenes from a monocular RGB image, for making the robotic planning and navigation faster.
 - **Depth aware style transfer:** Preserving the 3D perception while transferring the style across images, an adversarial loss between the depth images is used.
 - **Feature visualization in neural networks:** Understanding the features that are responsible for different neuron activations.
- **Computational Intelligence Lab** Bengaluru, India.
Research Intern *May 2015- July 2015*

- **Face recognition and tracking in UAV surveillance video** : Fast and accurate preprocessing to account for large data from high resolution cam by using cascade of SAR, Euler number, Eccentricity, BBP, and then a SVM is trained for face/non-face classification.

- **Next Generation Wireless Systems Lab**

Bengaluru, India.

Research Intern

April 2014- August 2014

- **ML detector in Rayleigh faded channel**: Optimum decision rule for ML detector when the transmitted signal is corrupted by Rayleigh faded channel with AWGN, Log-normal/Rayleigh/Rician interference for MPSK and MQAM modulation schemes.

PRODUCTS DEVELOPED

- **2.4GHZ RF receiver**

Design of Radio frequency 2.4Ghz receiver, PCB layout with LNA, MIXER and ANTENNA is designed in eagle and fabricated.

- **Game - Digital Flappy Bird**

Developed a synthesizable code for Flappy bird game in Verilog using Quartus software and burned the program in krypton CPLD Kit using JTAG, game and score are displayed on led matrix whereas the controller for users are on the board itself.

- **Game - Air hockey**

Developed an LED simulation of the game Air Hockey on an (8*9) LED grid using 8085 microprocessor and logic gates, Dyna-kit, Interfaces like 8255, Interrupts, Masks, Memory registers are used in coordination to design the game.

- **Moving target tracking automobile via shortest path using RFIDS**

The tracking is done with the help of RFID tags attached (beforehand) to the proposed targets, automobile would run by an algorithm which takes real time inputs from the tags and uses particle filtering techniques to correctly estimate the shortest path of approach to the target. (**Funded by Texas Instruments.**)

PROGRAMMING SKILLS

Python, C++, C, Matlab, Tensorflow, Pytorch, Theano

ACADEMIC HONORS AND AWARDS

Awarded MCM scholarship for all four years.

One among the Seven students shortlisted for OPJEMS scholarship interview from IIT Guwahati in 2013.

Among top 0.13 percent in EAMCET 2012.

Among top 0.41 percent in the IIT-JEE 2012.

Among top 0.32 percent in AIEEE 2012.

POSITIONS OF RESPONSIBILITY

- **Elected student representative - DUPC**

Review and modification of course material by collecting information from top ranked institutions to encourage a global exposure.

- **49th Inter IIT Sports Meet Organization committee**

Allocation of rooms for guests coming from various IITs for the sport meet. Managing the allotment of messes during the sports meet and maintaining the quality of the food through inspections.