

ABHISHEK AGRAWAL

Department of Electrical Engineering

Indian Institute of Technology (IIT) Jodhpur

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Email Id: abhiagwl4262@gmail.com**EDUCATIONAL PROFILE**

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|-------------|---------------------|---|---------|
| 2013 - 2017 | B. Tech | Indian Institute of Technology, Jodhpur | 7.74/10 |
| 2010 | Class X (R.B.S.E) | D.S.S.A, Gangapur City | 91.67% |
| 2012 | Class XII (R.B.S.E) | D.S.S.A, Gangapur City | 84.00% |

EXPERIENCE**Research Engineer I at ThinCI Semiconductors Pvt Ltd**

(Since Jan'19)

- Working on **Convolution Neural Networks model compression** in order to make training and inference computationally fast and efficient in terms of memory footprint.
- Designed a **Distiller tool** which provides a Pytorch environment for prototyping and analyzing compression algorithms, such as **low rank approximation** using **tensor decomposition**, using **fixed point arithmetic**, **network pruning using depth** and **breadth reductions**, **inducing regularizations**
- **Distiller Tool** can map any trained model in exported in ONNX format to its distilled **Pytorch+ONNX**
- Implemented **SQRT and RSQRT using fixed point LUT** based on hardware accumulator specifications

Research Engineer at Hi-Tech Robotic Systemz

(June'17- Jan'19)

- Contributed to Novus Pilot project that includes **Forward Collision Warning** and fleet management system
- Implemented **Kalman Filter** based motion model for **Multi Object Tracking** followed by extraction of unique features for appearance model based object association
- Real time performance optimization was done using C++ parallelization by OpenMP and CUDA
- Worked on Road Scene **Object Detection** and **Monocular Depth estimation**, **Data Visualization**

PROJECTS**Automatic License Plate Recognition**

(May'15 - July'15)

- Devised a system that can extract the number plate region from the image of back of the car, segment out this desired region and then recognize segmented characters
- Utilized algorithms such as connected component and Sobel edge detection and OCR (Optical Character Recognition) to recognize segmented character

AREAS OF INTEREST

Artificial Intelligence, Deep Learning, Machine Learning, Computer Vision, Data Science, Data Analytics

TECHNICAL SKILLS

| | |
|------------------------------|---|
| Programming Languages | • Python, C, C++, Matlab, R, CUDA, roscpp, rospy |
| Tools and frameworks | • PyTorch, ONNX, Linux, ROS, OpenCV, Keras, Nvidia Jetson TX1 |

RELEVANT COURSES UNDERTAKEN

Academic Courses - Artificial Neural Networks and Deep Learning, Digital Signal Processing & applications, Digital Signal Processing, Signals and Systems, Computer Programming, Data Structure and Algorithm, Probability and Statistics, Linear Algebra, Differential Equations, Information theory and coding

Distance Learning - Neural Networks and Deep Learning by **Andrew NG**, Structuring Machine Learning Projects by Andrew NG, Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by Andrew NG

