# Rohit Gajawada

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## EDUCATION

**Georgia Institute of Technology**, Atlanta, Georgia — *Aug '19 - May '21*
*Master of Science in Computer Science* — **GPA: 4.0/4.0**

**International Institute of Information Technology (IIIT-H)**, Hyderabad, India — *Aug '15 - May '19*
*Bachelors of Technology in Computer Science and Engineering (Honors in Computer Vision)* — **GPA: 8.41/10.0**

## TECHNICAL SKILLS

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|---|---|
| **Programming Languages** | Python, C, C++, MATLAB, Bash, HTML, CSS, JavaScript |
| **ML/DL/CV** | PyTorch, Keras, TensorFlow, OpenCV, scikit-learn, scikit-image |
| **Other Libraries and Tools** | Git, LaTeX, OpenGL, WebGL, SQL, PyGame |

## EXPERIENCE

**Graduate Researcher - Computational Perception Laboratory**, Georgia Tech — *Sept '19 - Dec '19*

- Worked on few shot learning for object recognition using shape priors from 3D reconstruction.

**Machine Learning Intern - Computer Vision Center**, Universitat Autònoma de Barcelona — *May '18 - July '18*

- Worked on unsupervised domain adaptation for end-to-end imitation learning for autonomous driving.
- Trained models in PyTorch and CARLA Simulator, deployed in real world using Jetson TX2 and Raspberry Pi.

**Undergraduate Researcher - Center for Visual Information Technology**, IIIT-H — *Mar '17 - Apr '19*

- Developed a full binarization method for deep CNNs that attains an increase of upto 8% in accuracy and 21% in compression.
- Developed a distribution-aware approach for binarizing deep CNNs that attains an increase of 2.5% in accuracy.
- Created a style transfer based data augmentation method for spoof detection resulting in upto 3% increase in TDR.

**Teaching Assistant** - Georgia Tech, IIIT-H — *Jan '18 - Present*

- Courses: Computer Vision (Spring '20, Spring '19), Graphics (Spring '18)

## PROJECTS

**Eye Gaze Detection using Attention Modeling** *(PyTorch, Python)*

- Implemented a deep learning model that follows the gaze of people and identifies salient objects in an image.
- The model does this by extracting head pose and gaze orientation of faces detected by a SSD detector.

**Automatic Top View Registration of Sports Videos** *(Python)*

- Created a semi-supervised method via camera augmentations that uses pix2pix to make edge map and homography pairs.
- For a query camera view image, KNN with HOG matching is done to get the optimal top view homography.

**Embedding Common Sense into Question Answering** *(PyTorch, Python)*

- Implemented an MCQ solver that ranks question answer pairs using a fine-tuned BERT model on the SocialIQA dataset.
- Augmented the context with common sense inferences using a GPT-based model trained on the ATOMIC knowledge graph.

**Sketch Based Image Retrieval** *(MATLAB)*

- Implemented an edge grouping based SBIR system that uses a RankSVM, graph cuts, energy filtering and k-NN.

**BrickBreaker, Bloxorz and 3D Aquarium** *(C++, OpenGL, JS, WebGL)*

- Built a 2D game, a 3D game and a 3D aquarium simulator which incorporate physics, lighting and shaders.

**Part Of Speech Tagger** *(PyTorch, Python)*

- Implemented an LSTM based POS Tagger that uses embeddings of both word level and character level n-grams.

## PUBLICATIONS

- ***Hybrid Binary Networks: Optimizing for Accuracy, Efficiency and Memory***, *A. Prabhu, V. Batchu,* ***R. Gajawada****, S. Munagala, A. Namboodiri,* ***WACV 2018***
- ***Distribution-Aware Binarization of Neural Networks for Sketch Recognition***, *A. Prabhu, V. Batchu, S. Munagala,* ***R. Gajawada****, A. Namboodiri,* ***WACV 2018***
- ***Universal Material Translator: Towards Spoof Fingerprint Generalization***, ***R. Gajawada****, A. Popli*, T. Chugh, A. Namboodiri, A.K. Jain,* ***ICB 2019***

## SELECTED COURSEWORK

Computer Vision, Machine Learning, Software Engineering, Natural Language Processing, ML with Limited Supervision, Optimization Methods, Artificial Intelligence, Digital Image Processing, Graphics, Mobile Manipulation, Algorithms