Vishal K. Gupta

(2735 SW 35th Place, #1805, Gainesville, FL-32608)

LinkedIn: www.linkedin.com/in/vishalgupta4081
✉: vishal.gupta4081@gmail.com | : +1 (352) 530-5982

Education

Master of Science, Computer Science and Engineering (Aug'16-Dec'17)
University of Florida | **GPA: 3.83/4.00**

Bachelor of Technology, Electrical Engineering (July'10-June'14)
Indian Institute of Technology Kanpur, India | **GPA: 7.0/10**

Professional Experience

Qualcomm Inc. | Graduate Engineering Intern (May'17-Aug'17)

- Deployed multitude of **deep learning algorithms** to improve upon **traditional camera designs and capabilities**
- **Image regression using convolutional neural networks** on raw sensor data replacing HW Image and Signal Processor
- Reduced luminance and chrominance noise & color tone boost using **multi-resolution approach** for **large range of ISOs**

Qualcomm India Pvt. Ltd. | Associate Engineer (June'14-Aug'16)

- Assisted in successful **development & integration of firmware** on premium tier SoCs: **Snapdragon 820, 810, 800** etc.
- **Software centric verification** of ARM TrustZone and **virtualization extensions** based IPs, drivers & **Cryptographic engines**
- Reduced man-hours by **3x & 2x boost in verification coverage** by **automation** of backend verification infra.

Intelligent Data Engineering & Automation (IDEA) Laboratory, IIT Kanpur | Research Associate (May'12-Dec'12)

- **Prototyped** the fault detection module on **Android** and **validated its feasibility for Air Compressors**
- Analyzed acoustic signals in time, frequency and wavelet domain for fault discriminating features
- Developed **Softmax Classifier** with **Sparse Auto-Encoder** based neural network for high accuracy **fault prediction**

Skills

C/C++ (3+ yrs) • Java (3+ yrs) • Python (5+ yrs) • MATLAB (5+ yrs) • TensorFlow • Keras • HTML • Linux • Android • Git

Awards & Scholarships

Gartner Group Info Tech Scholarship for having outstanding academics and research contribution among **700 Master's students** in Dept. of CISE for the academic year 2016-2017.

Publication

- Nishchal Verma, **Vishal Gupta**, Mayank Sharma & Rahul Kumar Sevakula, **"Intelligent Condition Based Monitoring of Rotating Machines using Sparse Auto-Encoders"**, IEEE International Conference on Prognostic Health Management, 2013
- Anup Zade & **Vishal Gupta**, **"Software Centric Verification of xPU and other Security Blocks*"** In QBUZZ'15, Annual Conference organized by Qualcomm India Pvt. Ltd. (* Manuscript unavailable publicly due to Qualcomm's Policy)

Academic Projects and Research Experience

SmartGator: Multi-Domain Chatbot (Feb'17-Apr'17)

- Chatbot was able to chat in **multi-domain context**: from information centric questions to understanding emotions
- Deployed **LSTM network** with **attention mechanism** to improve the quality and context specificity of output replies

Transfer Learning on *Kaggle Cats & Dogs* Dataset (Sept'16-Dec'16)

- Registered 2-class accuracy as high as **62% with just 250 samples**, **70% for 5000 samples** and **63% for 3-class classification**
- Deployed **Linear & Kernel SVM** accompanied by **hyper-parameter optimization using Bayesian approach**

Mid-Layer CNN Features for Visual Recognition (Feb'14-Apr'16)

- Extended **sample based sub-categorization** to multi-class scenario **augmenting classifier performance by 2-3%**
- Introduced **spatial sub-categorization increasing performance margin by 4-5%** for object and scene recognition tasks

Relevant Coursework

Advance Machine Learning • Artificial Intelligence Programming • Computer Vision & Image Processing • Sparse Coding in Sensing • Intro to Data Science** • Big Data Ecosystems • Probability and Statistics • Natural Language Processing • Convex Optimization in SP/COM • Statistical Simulation & Data Analysis • Distributed OS Principles • Advance Data Structures • Analysis of Algorithms • Programming Language Principles** (** In progress)