Animesh Anant Sharma

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EDUCATION

Columbia University, New York, NY **CGPA: 3.92/4.0**
M.S. in Computer Science (Machine Learning Track) Aug 2017 – Dec 2018
- Relevant Courses: Natural Language Processing (A), Deep Learning (A), Big Data Analytics (A-)

Indian Institute of Technology (IIT) Roorkee, IN **CGPA: 8.54/10.0**
B.Tech. in Electrical Engineering, Minor in Computer Science Jul 2013 – May 2017
- Relevant Courses: Artificial Neural Networks (A), Machine Learning (A), Operating Systems (A), Analysis of Algortihms (A), Data Structures (A+), Robotics and Control (A+), Discrete Structures (A+)

PROFESSIONAL EXPERIENCE

Samsung R&D Institute Bangalore, IN | Software Development Intern May 2016 – Jul 2016
- Developed a call drop prediction system using adaptive filter based back propagation through time (BPTT) network implemented in MATLAB.
- Achieved NMSE error of -42.23 dB for the final architecture with online implementation.

HONORS

CA Fellowship, Columbia University
Awarded by CS department for exceptional academic performance and research work. Full tuition waiver with Teaching Assistantship (5% selection rate).

RESEARCH

Computer Vision Lab, Columbia University | Graduate Research Assistant Sep 2017 – Dec 2017
- Reported the most relevant acoustic features of a speaker that can capture the attention of audience.
- Formulated a SVM and neural networks based system for predicting attention signal using correlated acoustic signals and achieved R-squared score of 0.57 with OpenSmile and Scikit-Learn. **Link to the report**

Department of Computer Science, IIT Kanpur | Research Intern Jun 2015 – Jul 2015
- Implemented recommender systems, neural networks, logistic regression and SVM in MATLAB and studied the theoretical aspects of these machine learning algorithms.
- Compared performance on recognition of postal codes, movie ratings and image compression.

PUBLICATIONS

Univariate short term forecasting of solar irradiance using modified online BPTT
Animesh Sharma. **Link to the research paper** and **Code**

SELECTED PROJECTS

AskAway: Modified Attention based Visual Question Answering (PyTorch) Oct 2017 – Dec 2017
- Developed a stacked attention based Visual Question Answering system using DenseNet and bidirectional LSTM. Studied the fixation of network on language priors for VQA 1.0 and VQA 2.0 dataset. **Link to Code**

Abstractive text summarizing in Chrome (Tensorflow, Javascript, Flask) Oct 2017 – Dec 2017
- Implemented a Seq2Seq based text summarizer to summarize reviews on Amazon.com in real-time. Built a chrome plugin interacting with Tensorflow model deployed on server. **Link to Code**

Development and Testing of a Face Recognition System (OpenCV, dlib, Torch) Jul 2016 – Apr 2017
- Built an automated attendance system using *OpenFace* system proposed by *Amos et al.* Detected face landmarks with dlib, preprocessed images using OpenCV and extracted features with CNN. **Link to Code**

Zomato SQL database (MySQL) Aug 2016 – Oct 2016
- Designed a relational database (with ERD, FD detection, normalization, create tables) suitable for the primary functionalities of Zomato.com and wrote SQL queries for executing those basic functionalities.

Univariate Short Term Forecasting of Solar Irradiance (MATLAB) Jul 2016 – Sep 2016
- Developed an online BPTT based deep learning system for multiple look ahead solar irradiance predictions. Achieved 9.7 percent mean relative error for t+4 predictions. Published in IEEE ICSEC conference.

Time-series Prediction of Rainfall in Rural India (MATLAB, LibSVM) Mar 2016 – Apr 2016
- Modeled rainfall prediction in rural India with SVM and MLP for univariate and multivariate time series networks. Achieved best result of 13.66 mean absolute error from the multivariate SVM model. **Link to Code**

SKILLS

Programming Languages: Python, C++,MATLAB, SQL.
Tools and Technologies: Pytorch, Tensorflow, Keras, Scikit-Learn, Hadoop, Spark, OpenSmile, ffmpeg, OpenCV, Git, Ubuntu, LaTeX.

ACTIVITIES

Teaching Assistant: Deep Learning, Visual Interfaces to Computers (Columbia University, Spring 2018).
Teaching Assistant: Artificial Neural Networks, Electrical Science (IIT Roorkee, Spring 2017).