Aditay Tripathi

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RESEARCH INTERESTS

Multimodal Machine learning, Automatic Speech Recognition, Machine Learning, Deep Learning,

EDUCATION

Indian Institute of Science, Bengaluru, India
Doctor of Philosophy candidate, Department of Computational and Data Sciences, August 2018-Now
(Advisor: Dr. Anirban Chakraborty, Dr. Partha Talukdar)　　　　CGPA: 8.00
Indraprastha Institute of Information Technology, New Delhi, India
Master of Technology, ECE Department, Aug 2015-July 2017
(Advisor: Dr. Saket Anand, Dr. Aanchan Mohan)　　　　CGPA: 8.73
National Institute of Technology, Srinagar, Jammu and Kashmir, India
Bachelor of Technology, ECE Department, Aug2010-June 2014　　　　CGPA: 8.22

TECHNICAL ELECTIVES

1. Digital Signal Processing
2. Computer Vision
3. Compressive Sensing
4. Automatic Speech Recognition and Synthesis
5. Machine Learning
6. Matrix theory
7. Deep Learning
9. Stochastic models and applications
10. Object Oriented Programming and Design
11. Statistical Signal Processing
12. Natural Language Understanding
13. Deep learning theory and practice

SKILLS

Languages: C, Java, Python, Matlab, Bash.
Web Development: HTML, CSS,Apache, Java Servlets, Flask .
Tools: Kaldi, Theano, Tensorflow, Keras, PyTorch, LaTeX, MATLAB, Anaconda, Jupyter Notebook, PyCharm, Eclipse, Git, MS Office.
Operating Systems: Linux, Windows.

EXPERIENCE

Cognitive Analytics Engineer(Intern)　　　　Verisk Analytics
Hyderabad, Telangana India　　　　August, 2017- Now
Automatic Speech Recognition, Joint Data Environment research group
Advisor: Dr. Maneesh Singh, Dr. Saket Anand
•Developing a framework for Automatic Speech Recognition which is invariant to shift in acoustic domain.

Intern　　　　Tata Consultancy Services
Bengaluru, India　　　　May,2016-July,2017
Image Super-resolution based on Multi-coset Sampling Framework
Advisor: Dr Achnaanil Kumar
•Investigated various image processing techniques for image sub-pixel registration for a novel image super-resolution framework based on multi-coset sampling.
Image Brightness Enhancement using Deep Neural Networks
•Investigated the application of denoising autoencoders for image brightness enhancement.

Assistant Manager　　　　Reliance Jio Infocomm Limited
Navi Mumbai, Maharashtra India　　　　July, 2014- July, 2015
Deployment of FMS PAN India for Reliance Jio Infocomm Ltd
Manager: Yogeswaran Subramanium
•My team worked on deployment of Fiber Management System to proactively detect the Fiber Cut anywhere India
Alarm Integration of Utility Devices for Relaince Jio Infocomm Ltd Manager:

Prasenjit Bhattachariya

●My team worked on the Alarm Integration of Utility Devices to smoothen the rollout of 4G network

Intern Reliance Communications
Jammu, India Jan,2013-Feb,2013
Study of Reliance Communications Telecom Network Technologies
Advisor: Rishipal Sharma

Intern HCL Career Development Center
Jammu, India Jan,2013-Feb,2013
Study of Object Oriented Programming and Design in Java as well as web-development using Java Servlets

PROJECTS

Speaker Adaptation of acoustic models for speech recognition based on Deep Neural Networks: Thesis
Advisor : Dr. Saket Anand Team Size : 1
●I am working on Speaker Adaptation for Automatic Speech Recognition and I am using Domain Adversarial Neural Nets (Ganin et al.'16) as the main idea.

Road Sign Detection, Parsing and Understanding: Deep Learning
Advisor : Dr. Saket Anand, Dr. Chetan Arora (Course Project) Team Size : 2
●Our task is to detect road signs in an image and recognize the text present in it. The sign may contain both Hindi and English texts as well as road traffic symbols.

Movie Genre classification from trailers taken from YouTube using audio and visual: Machine Learning
Advisor : Dr. Saket Anand Team Size : 2
●Implemented movie genre classifiers based on SVM and Neural Networks taking audio features, video features and both together and did a thorough analysis of their performance.

Semi-automatic Annotation Tool for Pedestrian Tracking: Computer Vision
Advisor : Dr Saket Anand (Course Project) Team Size : 2
●Developed a annotation tool for pedestrian. It is semi-automatic because of tracking algorithm implemented. Manual annotation is also available

Robust Audio Forgery using ENF processing methods: Independent Project
Advisor : Dr. A.V. Subramanyam Team Size : 1
●Tried to develop a robust audio forgery method based on ENF processing

De-noising using ELM- Autoencoders: Compressive Sensing
Advisor : Dr. Angshul Mazumdar (Course Project) Team Size : 1
●Investigated the application of Extreme Learning Machines autoencoders for image de-noising.

Simulation of V-BLAST Multiple Input Multiple Output system for different MIMO Configurations: Principles of Digital Communication Systems
Advisor : Dr. Anand Srivastava (Course Project) Team Size : 2
●V-BLAST MIMO system was implemented on MATLAB and performance was compared for different MIMO configurations as well as the systems without V-BLAST.

Comparative Study of OFC and FSO Link in NIR Region: BTech Project
Advisor : Gausia Qazi Team Size : 3
●Design of Optical Fiber Cable and Free Space Optics network and study of their performance in NIR region

PUBLICATIONS

- Majumdar, Angshul, and Aditay Tripathi. "Asymmetric stacked autoencoder." Neural Networks (IJCNN), 2017 International Joint Conference on. IEEE, 2017.
- Tripathi, Aditay, Aanchan Mohan, Saket Anand, Maneesh Singh. "Adversarial Learning of Domain Invariant Features for Automatic Speech Recognition." 2018 IEEE International Conference on Acoustics, Speech and Signal Processing, 2018.

POSITION OF RESPONSIBILITY

- Team Captain EECS Symposium 2019 Organising Committee at IISc Banglore
- Assistant Manager with Reliance Jio Infocomm Limited
- Event Manager, TECHVAGANZA 2013, NIT Srinagar
- Captain, College Hockey team, NIT Srinagar
- Teaching Assistant at IIIT Delhi for the following courses:
  - Signals and and Systems
  - Physics 3
  - Image Analysis
  - Statistical Signal Processing