SWATI

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EDUCATION

Ph.D., University of California Santa Cruz *Sept 2018 - Present*
Department of Computer Science and Engineering
Advisor: Professor Roberto Manduchi

Master of Technology (M.Tech) *July 2014 - June 2016*
Department of Electrical Engineering Overall GPA: 9.03/10
Indian Institute of Technology (IIT), Hyderabad
Advisor: Dr. K. Sri Rama Murty

Bachelors of Engineering (B.E.) *July 2010 - June 2014*
Department of Electronics and Communication Engineering Overall GPA: 8.67/10
Panjab University, Chandigarh

EXPERIENCE

Researcher, TCS Innovation Labs, New Delhi *July 2016 - August 2018*
Mentors: Dr. Gautam Shroff and Dr. Lovekesh Vig

RESEARCH INTERESTS

Machine learning, Deep learning and their applications in the area of Computer Vision.

PUBLICATIONS

- ***Swati***, M. Sharma, Lovekesh Vig, *"Automatic Classification of Low-Resolution Chromosomal Images"*, Bioimage Computing (BIC), **ECCV**, Munich, Germany, September 2017.
- M. Sharma*, ***Swati****, Lovekesh Vig, *"Automatic Chromosome Classification using Deep Attention Based Sequence Learning of Chromosome Bands"*, in the proceedings of **IJCNN**, Brazil, July 2018.
- ***Swati***, G. Gupta, M. Yadav, M. Sharma, Lovekesh Vig, *"Siamese Networks For Chromosome Classification"*, Bioimage Computing (BIC), **ICCV**, Venice, Italy, October 2017.
- G. Gupta, ***Swati***, M. Sharma, Lovekesh Vig, *"Information Extraction from Hand-marked Industrial Inspection Sheets"*, CBDAR, **ICDAR**, Kyoto, Japan, November 2017.

RESEARCH PROJECTS

Document Denoising using GANs June 2018 - August 2018
TCS Innovation Labs

- The aim of this work was to remove various kind of noisy effects like blur, watermarks from the text documents to enhance the readability and improve data extraction.

Automatic Karyotyping of Human Chromosomes in Cell Images August 2016 - June 2018
TCS Innovation Labs

- The objective was to assist doctors by automating the karyotyping process, originally performed manually for the diagnosis of various birth defects or other bio-medical disorders.

Information extraction from Document Images April 2017 - July 2017
TCS Innovation Labs

- The motivation for this work was to supervise engineers in the manufacturing companies and automate the process of reading the inspections sheets and populating observations in the log files.

Acoustic Segment Modeling(ASM) using Spectral Clustering techniques Jan 2015 - June 2016
M.Tech Thesis Project, Advisor: Dr. K. Sri Rama Murty, IIT Hyderabad

- Motivated by the fact that transcribing speech is laborious, we attempted to build unsupervised methods for acoustic segment modeling (ASM), i.e. finding underlying phoneme-like speech units, for the task of language identification.

TEACHING EXPERIENCE

- Probability and Random Processes, *Teaching Assistant*, Aug-Dec 2015.
- Adaptive Signal Processing, *Teaching Assistant*, Jan-April 2016.

TECHNICAL SKILLS AND COURSES

Languages Python, Theano, Keras, C, C++, Shell scripting.
Tools Matlab, OpenCV, LATEX.

RELEVANT COURSES

Ongoing Analysis of Algorithms, Computer Vision.
Completed Machine Learning, Probability & Random Processes, Deep Learning, Image Processing.

ACHIEVEMENTS

- UC Santa Cruz Dean Fellowship - Winter and Spring 2019.
- UC Santa Cruz Regent Fellowship - Fall 2018.
- All India Rank 432 - Top 0.2% (amongst 2,16,000) in GATE-2014.
- All India Rank 8507 - Top 1.2% (amongst 4,70,000) in IIT JEE-2010.