

Abhishek Sethi

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EDUCATION

- **Indian Institute of Technology, Bombay** [2015- 2017]
M.Tech Computer Science & Engineering 8.1/10
- **Guru Nanak Dev University, Amritsar** [2011- 2015]
B.Tech Computer Science & Engineering 7.81/10
- **Dashmesh Sr Sec Public School, Ferozepur** [2011]
Intermediate, P.S.Ed.B 80.6%
- **D.C Model Sr Sec School, Ferozepur Cantt** [2009]
Matriculation, P.S.Ed.B 86%

AREAS OF INTEREST

Machine Learning, Natural Language Processing, Web Mining, Computer Vision .

PUBLICATIONS

- Abhishek Kumar, Abhishek Sethi, Md Shad Akhtar, Asif Ekbal, Chris Biemann, and Pushpak Bhat-tacharyya. Iitpb at semeval-2017 task 5: Sentiment prediction in financial text. *In Proceedings of the 11th International Workshop on Semantic Evaluation (SemEval-2017)*, pages 894-898, Vancouver, Canada, August 2017. Association for Computational Linguistics

WORK EXPERIENCE

- **Netradyne Technologies, Bengaluru** [Mar'18- Present]
(Research Engineer | Analytics Team)
 - Working on **ADAS features** such as **tailgating, lane change detection, driving feedback** etc. Involved in algorithm design and improvement of these features.
 - Worked on Lanes Detection using Deep Neural Nets. Focused on performance improvements and hyperparameter tuning of existing models.
 - Proposed and implemented **evaluation metrics** for **Lanes Detection** models.
- **Subex Ltd, Bengaluru** [Oct'17- Mar'18]
(Machine Learning Analyst | Analytics Team)
 - Worked on analysing social media footprint of a company by extracting positive and negative topics using sentiment analysis and topic modelling.
 - Worked on a POC for Fraud analysis. Identified most frequent patterns using different clustering techniques and then reporting them using interactive dashboard.
 - Introduced a data visualization tool- QlikView in the team which was used for creating interactive dashboards for churning out insights in all projects. Explored and helped other team members in the same.
- **Tata Research Development and Design Centre, Pune** [May'16- June'16]
 - Worked with The Machine Learning Group in Information Extraction domain.
 - Explored literature related to Information Extraction, Open Information Extraction, and specifically Entity and Attribute Extraction.
 - Implemented a Rule-Based System for Entity and Attribute Extraction using Java, Python and Stanford CoreNLP Toolkit.

MAJOR PROJECTS

- **Aspect Based Sentiment Analysis: ABSA** *[July'16- June'17]*
(*M.Tech Project | Guide: Prof. Pushpak Bhattacharyya*)
 - Explored the literature covering basics, techniques and applications of Sentiment Analysis using Rule-Based Systems, Machine Learning and Deep learning.
 - Explored and developed systems for different subtasks like Aspect Categorization, Opinion Target Extraction, and Sentiment polarity in ABSA.
 - Used CNN, and Machine Learning Models for Aspect Categorization; CRF for Opinion Target Extraction; CNN, Attention Based Models and Machine Learning Classifiers For Sentiment Analysis.

COURSE PROJECTS

- **Interacting with Software using Hand Gestures** *[Jan'16- April'16]*
(*Foundations Of Machine Learning | Guide: Prof. Ganesh Ramakrishnan*)
 - Used Haar-like features to train AdaBoost classifier to detect and extract the region of hand from a live video feed.
 - Applied Computer Vision to extract the number of fingers present in the region extracted above.
 - Mapped finger count to specific actions in a software.
- **Distributed Key-Value Store, Chord** *[Feb'17- Apr'17]*
(*Distributed Systems | Guide: Prof. Umesh Bellur*)
 - Built a scalable, fault tolerant distributed Key value store in GO lang.
 - Functionality for nodes to join and leave the store at will.
 - Ability handle failures when a node leaves abruptly and stay available after node failure.
 - Replication for both fault tolerance and performance.
- **Voice Based Music Player** *[Mar'17- Apr'17]*
(*Automatic Speech Recognition | Guide: Prof. Preethi Jyothi*)
 - Generated data set for 4 different song genres.
 - Used Monophone as well as Triphone models to recognize genre, song name from that genre and then play that song finally.
 - Used Kaldi Speech Recognition Framework for our experiments.
- **Image Classification using CNN** *[Oct'16- Nov'16]*
(*Web Mining | Guide: Prof. Soumen Chakrabarti*)
 - Used CNN to classify images from CIFAR-10 dataset.
 - Features were extracted using CNN and then fed into Feed Forward Network for classification into one of ten classes.
- **Mining Moving Object Data for Discovery of Meta Patterns** *[Jan'16- April'16]*
(*R & D Project | Guide: Prof. Umesh Bellur & Dr. Alka Bhushan*)
 - The project was aimed at developing a framework to support a new set of queries on group patterns of moving objects, with the support of online clustering of streaming data.
 - Implemented a Swarm based clustering algorithm for finding swarms in the trajectory data.
 - Implemented a graph-based storage of groups that can be conveniently queried for convoys, swarms and other meta patterns.

TECHNICAL SKILLS

Programming Languages: C++, JAVA, C, Python, Go-Lang

Tools & Frameworks: Caffe, Pytorch, Gnuplot, Dia, L^AT_EX, Eclipse, Git, Qlikview

Key Courses: Machine Learning, Information Retrieval & Web Mining, Linear Optimization, Probabilistic Models, Distributed Systems, Automatic Speech Recognition

ACADEMIC AND EXTRA-CURRICULAR ACTIVITIES

- Secured an **All India Rank 45** in GATE exam among **1, 15, 425** candidates. [2015]
- City Rank **1** in International Mathematics Olympiad by Science Olympiad Foundation(SOF). [2008]
- Participated in CodeChef's annual multi-round programming competition "SnackDown 2016". [2016]
- Secured **1st** place in Choreography at JASHAN (Cultural Fest) of Guru Nanak Dev University. [2013]
- Participated in various events during PG Cult at IIT Bombay. [2015]

POSITIONS OF RESPONSIBILITY

- **Teaching Assistantships, IIT Bombay:**

- **Computer Programming and Utilization** (Prof. Varsha Apte & Prof. Uday Khedkar)

- * Mentored **25** students in their lab assignments and course projects.

- * Evaluated exam papers, programming lab assignments and projects of **120** students along with other team members.

- **Foundations Of Machine Learning** (Prof. Ganesh Ramakrishnan)

- * Set up Kaggle competition for the course assignments for a batch of **200** students.

- * Framed supplementary questions for video lectures and addressed doubts of students in forum discussions.

- **Other Positions, GNDU Amritsar:**

- An active member of placement team at Guru Nanak Dev University. [2012 & 2013]

- Organized Treasure Hunt during IRIS (Tech Fest). [2013]