Mausam Jain

Research Scientist

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Professional data scientist with 3.5 years of relevant experience in machine learning, natural language processing and speech processing. I have worked heavily on Python and PyTorch in my projects with focus on making deep learning models available to end users at ease. Along with fast prototyping of machine learning models using Sklearn, I have worked with SQL and Git constantly.

Work Experience & Internships — 3.75 years

Research Scientist, Rakuten Inc. — Sep'17 - Present

Speech Recognition and Natural Language Processing

- Made an offline multi-modal *speech emotion recognition* system for call center which can analyze calls and annotate them.
- Worked on Japanese language *text-to-speech (TTS) for audio books* which involved offline speech synthesis with average 3.7 MOS.
- *Pronunciation and Language modeling* for Kaldi based *ASR models* for e-commerce voice search system with 92% word error rate.
- Designed a noise-robust real-time *speech recognition for robot* and *natural language understanding* for human-robot interaction.

Financial Analysis

- *Financial trading of bonds* with data exploration for pattern recognition and using *decision tress* and *boosting* techniques to forecast prices.
- *Stock price data pipeline* a financial data gathering platform for all the fintech projects.

Data Science Intern, Bosch Japan — Jul'16 - Sep'16

Plant Disease Prediction System using machine learning and data mining with following tasks:

- Data preparation, cleaning and visualization and validation of raw data recorded by sensors
- Developing model (regression and classification) for predicting leaf wetness
- Model for predicting inside greenhouse parameters using outside environment factors

Graduation — 2 years

Master's thesis (preprint link)

- *Extracting latent vector representations for graph sub-structures* using hierarchical random walks, word2vec and histogram bagging with deep graph kernels as baseline.
- *Deriving a graph kernel to get subgraph similarity measure* using the vector embeddings learnt above which can discriminate between graphs for anomaly detection etc.

Academic projects

- *Image captioning with multi-class classification* - "Yelp photo classification" kaggle challenge.
- *Top-K attributes from product reviews in e-commerce* using classical NLP tools from NLTK.
- *Car make and model recognition* using SIFT and Spatial-pyramid algorithms.

Patents

- *Information Processing Device and Method* - prediction of internal greenhouse environment and minimization of sensor installation and maintenance cost using machine learning (patent link).

Achievements & Responsibilities

- Winner of ElephantEdge, a ML on edge contest, on hackster (submission link).
- All India 209 rank in GATE 2015.
- Technical assistant for Python and C++ labs.
- President of Indian Society for Technical Education (ISTE) student's chapter.

Areas of Interest

Machine Learning
Speech recognition
Natural Language Processing
Deep Learning

Technical Skills

Data Science

Python	Scikit-learn
PyTorch	Seaborn
MySQL	Git
Docker	C/C++
Bash	

Web designing

Flask	HTML/CSS
ReactJS	Bootstrap

Education

MTECH IN COMPUTER SCIENCE
IIT Hyderabad
8.8/10 — 2015-17

BE IN COMPUTER SCIENCE
WIT Solapur
72.3% — 2010-14

HSC & SSC
BSP Senior Secondary X, Bhilai
80% & 83% — 2008-10

Relevant Coursework

Advanced Machine Learning
Computer Vision
Predictive analysis
Database Management Systems
Linear Optimisation

Languages

Business level

English
Hindi

Beginner

Japanese
Spanish

Other Activities

Reading science & (auto)biographies, Gaming, Table-tennis, Badminton