PRAKAMYA MISHRA

PERSONAL DATA

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EDUCATION

Shiv Nadar University, Uttar Pradesh, India — Aug 2016 - Present
Bachelors of Technology in Computer Science & Engineering
CGPA: 8.31/10 (till 6th semester)

Bharatiya Vidya Bhavan School, Vadodara, India — June 2014 - May 2016
CBSE, Class XII: 90.80%

Delhi Public School, Vadodara, India — June 2012 - May 2014
CBSE, Class X: 9.8/10

WORK EXPERIENCE

Big Data intern at Reliance Jio Infocomm Limited
Mumbai, India — *May 2018 July 2018*

- Led a project to integrate Apache Airflow for Data Workflow Management.

- Performed competitor analysis and validation for Apache Airflow.

- Worked on exploring and implementing Apache Airflow as a workflow Scheduling framework in Jio big data ecosystem.

- Implemented complete LSMR-PM data pipeline on apache airflow and did tests based on security, performance, scalability, fault tolerance and monitoring.

AIMACODE — Aug 2017 Dec 2017
Open source contributor

- Developed web based visualizations for Chapter 22 - Natural Language Processing of the book Artificial Intelligence a Modern Approach by Russel and Norvig.

- Implemented N-gram model, text classification and IR scoring function using JavaScript.

Learning & Academic Support Center (LASC) — Aug 2017 May 2018
LASC Tutor & Coordinator

- Tutored junior peers and coordinated with the faculty course instructors to help students cope with the academic rigor required to succeed in university wide courses.

RESEARCH EXPERIENCE

Audio2Vec: A vector representation spoken words
Shiv Nadar University — *August 2019 - November 2019*

- Worked with Dr. Rajeev Kumar Singh and Dr. Dolly Sharma on a paper to visualize spoken word audio files in the form of unique vector representations.

- Designed a convolutional autoencoder having 16-dimensional latent space and trained it using spectrogram images of spoken word audio files to learn vector representation of spoken words.

- Designed a recurrent neural network using these vector representations for predicting next spoken word of a speech.

Deep contextualized word representation for detecting sarcasm based on conversation context

Shiv Nadar University, *May 2019 - November 2019*

- Worked with Dr. Rajeev Kumar Singh and Dr. Dolly Sharma on a paper to detect sarcasm in reddit comments.

- Designed a state of the art deep learning model for sarcasm detection which uses conversational context of each comment along with deep contextualized word embeddings like ELMO and BERT for representing comments and solves the problem of polysemy (A word can have multiple meaning based on the context in which it appears)

Road network mapping from aerial images Nov 2017 - August 2019

Applications of Machine Learning (Vol. 11139, p. 1113917). International Society for Optics and Photonics.

- Worked with Prof. Aakash Sinha and his team to develop a road network mapping framework.

- Used random forest model for pixel-wise road segmentation followed by computer vision post-processing techniques like connected component analysis (CCA) and hough lines method for network extraction from high-resolution aerial images.

- Helped in annotating our custom dataset of aerial drone images collected from an urban settlement in India.

Correlated Feature Selection for Tweet Spam Classification Aug 2017 - Feb 2018

Shiv Nadar University, Uttar Pradesh, India

- Worked under the guidance of Dr. Rajeev Kumar Singh and Dr. Dolly Sharma to analyse spamming on Twitter.

- Developed a deep learning model and used feature extraction techniques to classify spam tweets.

- Performed competitor analysis of this model with other machine learning models like SVM, kernel SVM, K-nearest neighbours and artificial neural network.

PROJECTS

Yoogle

Hack The North, University of Waterloo

- Developed a content based YouTube video search engine web application can on any search query show videos which actually have contents that are being searched for.

- Used state of the art machine learning and AI algorithms to detect various attributes of the videoi.e., all the famous celebrities, landmarks, all the texts and objects that come up during the video, etc.

Automatic Trolley Human Follower

Top 20 in Hack in The North 3.0, IIIT Allahabad

- Made an affordable automatic trolley human follower for general or industrial user.

- Used an arduino, combination of ultrasonic range sensors, accelerometer, gyroscope, fingerprint sensor and camera to make trolley follow an user automatically.

Smart Bin

1st prize HackData 1.0, Shiv Nadar University

- Made a working prototype of a smart bin which could classify waste into biodegradable and non-biodegradable using image classification neural network model, arduino servo motor and a camera.

- Developed an analytical website for waste segregation analysis using firbase in backend.

Project M.A.R.S.

Major curriculum project

- M.A.R.S. (Music app with recommendation system) is a music recommendation application which suggest song using a logistic regression model trained on a dataset having 10000 songs from Spotify.

- Used natural language processing to analyse latest opinions, news and trends of that particular song on Twitter and integrated it with the recommendation system.
- Developed a JavaFX application having features to search songs by name/artist and plays the music video using YouTube API.

TECHNICAL SKILLS

Programming: Java, Python, C, JavaScript, Git, Shell, LATEX
Deep Learning: Tensorflow, Keras, Numpy, Pandas, Sklearn
Big Data: Spark, Scala, Apache airflow, Hive, Hadoop

AWARDS & HACKATHONS

Hack The North 3.0   Sep 2019
Selected   *University of Waterloo, Canada*

Dell Hack2Hire   Sep 2018
Special mention   *Dell, India*

Hack in The North 3.0   Mar 2018
Top 20   *IIIT Allahabad, India*

HackData   Oct 2017
1st place   *Shiv Nadar University, Uttar Pradesh, India*

TALKS & WORKSHOPS

Introduction web development   Jan 2019
ACM-SNU chapter   *Shiv Nadar University, India*

PUBLICATIONS

1. Suchit Jain, Rohan Mittal, Prakamya Mishra, and Aakash Sinha. Road network mapping from aerial images. In *Applications of Machine Learning*, volume 11139, page 1113917. International Society for Optics and Photonics, 2019

RESEARCH INTERESTS

My area of interest lies in the field of natural language processing, computational linguistics, spoken language processing, deep learning applications mainly focused on designing deep neural networks for natural language generation.