

Akul Mehra

DATA SCIENTIST · MACHINE/DEEP LEARNING ENGINEER · COMPUTER VISION ENGINEER

Enschede, Netherlands

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Education

University of Twente

Enschede, Netherlands

M.SC. IN COMPUTER SCIENCE

2018 - 2020

- Specialization: **Data Science & Technology Track**
- Achieve a grade of 7+ (out of 10) in all the courses
- Focus on Data Science, Machine/Deep Learning, Computer Vision
- Master's Thesis on **"Deepfake Detection using Capsule Network with LSTM"**

Maharaja Surajmal Institute of Technology

New Delhi, India

B.TECH. IN COMPUTER SCIENCE & ENGINEERING

2014 - 2018

- Cumulative Percentage: **81.3%**

Faith Academy Senior Secondary School

New Delhi, India

HIGH SCHOOL

2002 - 2014

- Graduated securing 2nd Rank, Computer Science and Mathematics Topper
- All India Senior School Certificate Examination 2014: **93.80%**
- All India Secondary School Examination 2012: **8.8/10 CGPA**

Experience

Philips Research

Eindhoven, Netherlands

DATA SCIENCE INTERN

July 2019 - Nov 2019

- Develop Smart Search Information Retrieval System for supplier scouting done by Procurement Department
- Work in collection, indexing and clustering of documents to improve the user experience for supplier scouting
- Develop a web dashboard to find and cluster similar suppliers, with the capability to make faster decisions
- Filter and export the results to external files (csv, excel, txt), and contact the suppliers with selected user-defined templates
- Technical Stack used: Python, Selenium, Jupyter Notebook, Flask, Elasticsearch, Celery
- Letter of Recommendation: **Link**

University of Twente

Enschede, Netherlands

TEACHING ASSISTANT

Feb 2020 - April 2020 / Feb 2019 - April 2019

- Teaching Assistant for Data Science course twice
- Teaching Assistant for Discrete Structures & Efficient Algorithms
- Python Workshop Instructor for I.C.T.S.V. Inter-Actief Study Association
- Assist students pursuing Data Science and Python courses in topics related to Python, Data Science, Data Mining, Machine Learning and Time Series Analysis

Henнге K. K.

Tokyo, Japan

SOFTWARE ENGINEERING INTERN

March 2018 - April 2018

- Data analysis and development to help the internal team in organizing and managing meetings more efficiently.
- Work on analyzing 1000's of sensor data points and design scalable application for visualizing sensor data
- Help in performing actions such as manage and free resources for users with a user friendly dashboard
- Certificate of Appreciation: **Link**

SocialCops

New Delhi, India

RESEARCH AND DEVELOPMENT INTERN

April 2017 - Sept. 2017

- Work in data collection and processing pipeline to make data-driven decisions
- Develop web dashboard for managing and automating parsers
- Design and develop district level profile of India under NITI Aayog Policy
- Letter of Recommendation: **Link**

Inspiration Edge

Gurugram, India

PYTHON DEVELOPER

Jan. 2016 - Feb. 2016

- Work on data extraction and data analysis techniques on various government websites
- Design database schema to store collect data in organize and optimize manner
- Technical Stack used: Python, Selenium, Scrapy, MongoDB

Skills & Interests

Programming	Python, C/C++, JavaScript, LaTeX
Libraries	Numpy, Pandas, Sklearn, Matplotlib, Keras, PyTorch
Web	HTML5/CSS3, Twitter Bootstrap, jQuery, Flask
Areas of Interest	Data Science, Machine/Deep Learning & Automation, Computer Vision & Image Processing, Information Retrieval, Explainable AI, Entrepreneurship

Projects

Deepfake Detection using Capsule Network with LSTM

Master's Thesis on Detection of Deepfake Videos using deep learning techniques to identify Spatial and Temporal inconsistencies introduced between frames of a deepfake video. These inconsistencies are identified using a combination of Capsule Network and Long Short-Term Memory Network based models to improve the authenticity of digital media online and therefore avoid the spread of false information through fake media. We also see the impact of frame selection technique and visualize the activations of capsules to explain what features are detected in a given real or fake video. [Competition Link](#)

Expression-Invariant Face Recognition

Generating expression-invariant images warped using Thin Plate Spline Warping and Shape-Free Face Warping method to transform expression face to expressionless faces and analyzing if the performance of traditional face recognition models i.e. FisherFace, EigenFace and LBPH model, and Google's FaceNet model in recognizing faces improves.

PUBG Rank Prediction

A Kaggle competition based Machine Learning project created to predict the ranking of Player Unknown's Battle Grounds (PUBG) players, given their match statistics such as distance travelled, enemies killed, heal items collected etc. and understanding what attributes make a player winner. [Competition Link](#)

Investigating Popularity of Programming Languages

Processing big data from stack Overflow to inspect how the popularity of different programming languages with respect to a certain topic change over time, such as comparing Python, R & Scala for Machine Learning and Big Data topics. Also, analyzing the distribution of Stack Overflow users with respect to the popularity across the countries. [Link](#)

Police Analysis Dashboard

Data Science project focused on collecting, processing and analyzing of tweets from Indian Police. Data is collected using Twitter api and scrapers. A web application based dashboard is created which shows the user activity and visualizations for better interactivity. [Link](#).

Conferences & Presentations

PyCon X Italia

SPEAKER FOR "PREDICTING HUMAN ACTIVITY USING TIME SERIES ANALYSIS" - **TALK ABSTRACT**

Florence, Italy

May 2019

PyData Delhi 2017

CO-CHAIR AND ORGANIZER OF THE FIRST PYDATA CONFERENCE IN INDIA

New Delhi, India

Sept. 2017

PyData Delhi Meetup

SPEAKER FOR "INTRODUCTION TO DATA SCIENCE"

New Delhi, India

Apr. 2017

MLH Local Hack Day 2016

SPEAKER FOR "INTRODUCTION TO WEB SCRAPING"

New Delhi, India

Dec. 2016

PyCon HK 2016

SPEAKER FOR "DEMYSTIFYING DECORATORS" - **TALK ABSTRACT**

Hong Kong

Oct. 2016

Program Committees

2017 **Co-Chair & Organizer**, PyData Delhi Conference 2017

New Delhi, India

2016 **Co-Founder & Co-Organizer**, PyData Delhi

New Delhi, India

2016 **Co-Organizer**, Dev Sprints, PyCon India 2016

New Delhi, India

2016 **Co-Organizer**, MLH Local Hack Day Delhi 2016

New Delhi, India