

Soumitra Mehrotra

Contact : +1 8149969021 | soumitra<dot>mehrotra9@gmail.com | <https://www.linkedin.com/in/soumitra-mehrotra-600473b2/>

Education

Pennsylvania State University, University Park– PA, USA

Jan 2020 - Dec 2021

Master's in Computer Science and Engineering

Cumulative GPA: 3.6/4.00

(Present)

Related Coursework: Pattern Recognition and Machine Learning, Computer Architecture, Data Structures and Algorithms, Distributed Systems, Big Data Analytics.

Jaypee University of Information Technology, Solan – Himachal Pradesh, India

August 2013 - May 2017

Bachelor's in Electronics and Communication.

Related Coursework: Object Oriented Programming, Electronic Circuits, Microprocessor, and Microcontrollers, Cryptography.

Skills and Tools

Programming Languages: Python, C++, Java, MATLAB, HTML, CSS, JavaScript

Technologies & Tools : Flask, AWS, PySpark, Apache Spark, Spark SQL, SparkML, Jira, Git, Postman, Jenkins

Frameworks : Bootstrap, TensorFlow, Keras, REST API

ML Concepts : Regression, SVM, Feature Engineering, CNN, Deep Learning, Semi Supervised Learning – Co Training

Work Experience

1. Graduate Research Assistant (Advisor: Dr. Anna Squicciarini)

Jun 2020 – Till Date

- Working on detecting cyberbullying and hate speech on text derived from social media platforms particularly twitter using Semi-Supervised Learning.

2. Data Scientist, Affine Analytics, Bangalore, India

Mar 2019 – Dec 2019

- Designed software solutions including mobile and web applications for Expedia – the online travel platform leveraging data science and machine learning.
- Developed the data deposition pipeline in the AWS S3 buckets using Adobe Omniture and AWS Lambda to facilitate effective scheduling of Jenkins workflow.
- Analyzed large, complex multifaceted data sets representing millions of real-world travelers using Big data technologies like Apache Spark, Hadoop, AWS.
- Developed and deployed a live machine learning predictive models using advanced analytic platforms like PySpark, Spark SQL, Scala Spark, and R.
- Built an interactive Web Dashboard using Flask and SQLite to analyze the performance of the model's overtime.
- Developed an origin recommendation platform and integrated it with Expedia's backend for auto-filling the origin airport based on user's past data to enhance the user interface and experience.

3. Software Engineer, Tata Elxsi Limited, Bangalore, India

Oct 2017 – Feb 2019

- Extended technical support to Panasonic Japan for production-related issues and developed an API for Panasonic's electrical engineering team.
- Played a key role in the development of a Deep Learning object detection algorithm to detect laundry icons on clothes to facilitate automated washing unit's settings
- Implement the backend application using Flask and Jinja2. Deployed the model using Python Flask and Heroku.

Academic Projects

- 3D Reconstruction using COLMAP: Virtually placing object in 3D space – Python, MATLAB, CUDA, COLMAP
- Detecting Covid-19 from Chest X-rays using state of the art convolutional neural network-based models: Applied pre-processing techniques, Image segmentation, HOG feature extraction. Used EfficientNet & ResNet architectures.
- Integrating Kalman filter with Siamese FC for Object tracking – Python, CUDA, C++, Shell

Honors and Awards

- Transformer of the Month – September 2019, Affine Analytics
- Best Project Award, Murious, Inter-college Technical Fest January 2016
- Intel India Academic Forum 2018 - Intel Innovation Showcase, *Intel India November 2018*
- Nittany AI Challenge – Advanced to the final round of the Penn State's AI challenge and secured a funding \$2k (*in Progress*)

Selected Publications

- V. K. Sehgal, **S. Mehrotra**, H. Marwah, "Car security using internet of things", *2016 IEEE 1st International Conference on Power Electronics Intelligent Control and Energy Systems (ICPEICES)*, pp. 1-5, 2016