Satwik Mishra   E-mail: satwik.mishra1995@gmail.com   Tel: +1 585-754-5924

Education

2018-2021(Exp)	**Rochester Institute of Technology**, NY, USA, **Master's Computer Science** CGPA: 3.81/4
2014-2018	**Manipal Institute of Technology,** Manipal, India, **Bachelor of Technology (Information Technology)** CGPA: 8.29/10

Work Experience

Aug '19 – Dec'19   **Trimble Inc.**   Victor, NY
Software Engineer Intern | Fall Co-op
- Researched on ESRI's ArcGis GeoEvent Server and implemented a POC for automating and making the process of conversion of 811 Dig tickets to work-orders independent of original message format (JSON/XML/CSV) and sending the work-orders to Trimble Unity REST Endpoint.
- Integration of GainsightPX and Salesforce instance: fetch Trimble Unity KPIs like usage statistics, NPS
- Stress testing with NeoLoad and Datadog Synthetics.
- Tech stack: AWS EC2 Servers, Python, JS, Node.js, Bash, Visual Scripting on Esri's GeoEvent Server, Apex, Visualforce Controllers, NeoLoad, Datadog.

May'17 – July '17   **Apollo Munich Health Insurance**   Gurgaon, India
Data Science Intern | Summer Internship
- Implemented a fraudulent health insurance claim prediction model using Python. Created an ensemble of Random Forest, Gradient Boosting and XGBoost.
- Implemented a GUI to fetch tweets and give public sentiment analysis for a given company name.
- Libraries used - Sklearn, imblearn, XGBoost, Seaborn, Tweepy, TextBlob, NLTK, Wordcloud, PyQt

Technical Skills

- **Programming:**   *Python, Java, C++, JavaScript, Apex (Salesforce)*
- **Database:**   *MySQL, PostgreSQL, MongoDB*
- **Frameworks:**   *ROS, JDBC, Gradle, Tensorflow, PyTorch, Node.JS, Express.JS*
- **Concepts:**   *Localization (Kalman, Particle), Mapping, OOP, RMI, TCP/UDP, Multithreading*
- **Cloud:**   *AWS: EC2, DynamoDB, S3, VPC*

Projects

Feb'20 – April '20   **Handwritten Math Expression: Segmentation + Classification**   Rochester, NY
Preprocessing, Feature Engineering, Graph based segmentation
- Worked on CROHME data set to segment mathematical expressions and classify symbols.
- Implemented a pipeline for multithreaded preprocessing and feature extraction, an MST as the segmentation model, and random forest for classification.

Feb'20 – Feb '20   **Automated Canonical Cover Computation and 3NF Decomposition**   Rochester, NY
Relational Database, Big Data
- Given a relation, find the Functional Dependencies using Naïve approach, compute candidate keys, and then finally canonical cover and the 3NF decomposition.
- Implemented a Gradle project using JDBC framework, and MySQL.

Aug'18 – Aug '18   **Synchronized Producer Consumer across Different Servers**   Rochester, NY
Java, Multithreading, Socket programming
- The objective is to run producer, consumer, and the storage program on different servers, and synchronize all the interactions among them using Semaphores to prevent deadlock.

Jan'18 – May '18   **Lung Cancer Detection using Deep Learning, 3D CNN**   Manipal, India
TensorFlow, Data augmentation
- Developed an algorithm using 3D CNN with an ensemble of different activation functions and data augmentation to determine when lesions in the lungs are cancerous.
- Data set: High-resolution CT Scans of lungs provided by Kaggle.

Aug'16 – Nov '16   **Movie Recommendation using Collaborative Filtering**   Manipal, India
Hadoop MapReduce, Sentiment Analysis
- To recommend movies using Collaborative filtering and sentiment analysis incorporated with MapReduce.
- Implemented mapper and reducer classes and performed sentiment analysis on movie reviews, computed Tanimoto co-efficient for item-based filtering.

Research

Dec '17   **Bagging and Boosting with Equivalent Space Consumption**   Manipal, India
Scopus | Author
- Implemented and compared the various trade-offs between Bagging and Boosting Algorithms under different conditions. Publication Journal of Advanced Research in Dynamical and Control Systems

Links: Github, LinkedIn