

# Shradhit Subudhi

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## Professional Experience

**ZS Associates, Inc.** | New York City | Data Scientist | Feb 2020 - Present

Design, develop and execute high-impact analytics solutions. Experience with high volume, structured & unstructured data sets to help clients make better fact-based decisions. Some of the projects are listed below:

**Omnichannel Dynamic Targeting:** Lead a team of 2 Data Scientists and 2 Data Engineers to support a big pharma client by developing dynamic targeting algorithms leveraging AI and optimization techniques. The project aimed to deliver a weekly call plan for Neuroscience and Infectious Diseases sales representatives comprising target customers and prescribing messages to engage customers effectively. The overall initiative of dynamic targeting *improved sales by 35%*.

**Computational Phenotyping:** Lead implementation of an AI tool to generate a generalizable vector representation of a patient's medical state. Utilized NLP and DL techniques to obtain the medical code level vector embedding, and converted the medical code vectors to patient level by probability-based weight averaging techniques. Post which, a patient similarity network was constructed to maximize homogeneity within and heterogeneity among groups. The model accurately identified spatial and temporal patterns that distinguished diseases (in our case: NSCLC, AD, CKD, MS). The model helped us achieve a rand index of 70%. White Paper:: <https://shorturl.at/cdht0>

**Synthetic Control Arm:** Led the implementation of techniques to conduct clinical trials with a synthetic control arm. Identified similar patients in real-world data using inclusion/exclusion criteria. Utilized propensity score matching methods to minimize bias when comparing treatment and control datasets—calculated treatment effects for randomized control trials.

**Covid Visitation Monitor:** Developed a tool to monitor the visitation policy across all hospitals and group practices in the US. This data helped amend the call plan for the sales representative team based on access rules & regulations for the big pharma sales representatives.

**Veritonic, Inc.** | New York City | Data Scientist, Intern | June 2019 - Dec 2019

Built neural network (NN) based AI modules to detect gender, emotions, and instruments in audio data. This allowed for a deeper understanding of the resonance of radio and podcast advertisements with target audiences. Automated tags were used as input to a broader dataset to rate audio and increase ROI for products and client firms.

**Key Aspects** of the project include audio analysis, MFCC extraction, spectrogram generation, the model selection that enhances the selected metric, deep learning, model deployment, and Tools used include Librosa, Keras, TensorFlow, Sklearn, etc.

## Education

**Rutgers University, Rutgers Business School, NJ** | Sep 2018 - Dec 2019

State University Of New Jersey

**Masters in Information Technology and Analytics** | GPA: 3.717

*Graduate Teaching Assistant* of Data Analytics, Decision Making, Analytics of Business Intelligence, and Business Forecasting for Prof Sergei Schneider

**Relevant Coursework:** Probability, Data Mining, Data Analytics, Decision Making, Forecasting, Financial Time Series, Databases, Business Intelligence, Software Development

**College of Engineering Pune, India** | May 2014 - June 2018

Autonomous College of Government of Maharashtra

**Bachelor of Technology in Computer Engineering** | SGPA: 8.62 (final semester)

**Relevant Coursework:** Machine Learning, Advanced Database, Calculus, Optimization

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## Technical Summary

**Languages:** Python, R, SQL, C/C++, git, HTML/CSS, PySpark

**Libraries/Frameworks:** Scikit-Learn, Pandas, Numpy, TensorFlow, PyTorch, Plotly, GraphX

**Tools:** Excel, Word, PowerPoint, Access, G Suite, Jekyll, Power BI, Tableau, Neo4j

**Knowledge Area:** Supervised, Unsupervised, regression, pattern, trend identification, TensorFlow, Anomaly detection, time series, outlier detection, data mining, visualization, deep learning, computer vision, business intelligence, redshift, recommendation engines, Reinforcement learning, data warehousing, MongoDB, document clustering, text classification, Spark RedShift

## Certifications

**Introduction to Data Science in Python** by University of Michigan

**Applied Plotting, Charting & Data**

**Representation in Python** by University of Michigan

**Applied Machine Learning in Python** by University of Michigan

**Applied Text Mining** by University of Michigan

## Leadership Roles

**Founder & Co-Secretary**, Software Development Section, CoEP

**Team Lead**, Smart India Hackathon

**Class Representative**, B.Tech Computer Engineering from 2014-2018

**Web Team Head** for ED Cell, COEP

**Mathematics Teacher (Volunteer)** at St. Jude India

## Achievements

**7th Rank in Public ML challenge**, predicting if a person has COVID looking at Lung CT Scan Images

**4th in B.Tech Project Competition** for Anecdote Detection System held at College of Engineering Pune

Among **Top 1 percentile** in Grade 12th HSC - Maharashtra, India State Board