# SHREERAM GUDEMARANAHALLI SUBRAMANYA

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## EDUCATION

**State University of New York at Buffalo, United States** August 2021 - February 2023
Master of Professional Studies, Data Science and Applications

**The National Institute of Engineering, Mysore** August 2016 - May 2020
Bachelor of Engineering, Computer Science Engineering

## SKILLS

- **Programming Languages:** Python 3, R, JavaScript, Scala, C, C++,
- **Databases:** SQL Server, MySQL, PostgreSQL, MongoDB
- **Data Science:** Pytorch, Tensor Flow, Keras, Pandas, Sci-kit learn, Seaborn, Data Mining, Web Scrapping
- **Tools:** Visual Studio, Talend Data Integration, Tableau, Jupyter, Google Colab, GCP, Git, Lucidchart, Miro, Excel

## EXPERIENCE

**Research Assistant | Center for Unified Biometrics and Sensors Lab (UB)** December 2022 – Present

- Generated **2.4 million** synthetic fingerprints using directional kernels and Gabor-like space-variant filters with varying noise levels available in the Anguli generator to improve contactless fingerprint recognition using synthetic pre-trained **Swin-Transformer**
- Created **data flow diagrams** with **Miro**, streamlined data collection pipeline for fingerprint acquisition using an optical sensor, resulting in increased productivity. Improved dataset file structure and prepared technical documentation
- Improved classification performance by **3.13%** through the fusion of minutia silhouette features and latent features extracted using the Resnet101 backbone
- Increased the performance of spoof detection models by using temporal information introduced through intentional distortion during the acquisition. Project funded by **Qualcomm**
- Actively participated in daily stand-ups and made impactful progress on the development of KPIs

**Data Science Intern | Cognitron Technologies** December 2020 – July 2021

- Collaborated in an **Agile** environment to **gather requirements, strategize** and build data models using Lucidchart
- Designed ETL jobs using **Talend** components to extract, integrate, and map data from multiple sources such **as flat files, CSVs, and SQL relational tables**. Further developed data connections to Tableau Desktop for report and dashboard development
- Built **Tableau** reports and dashboards to track student performance and presented insights using Excel and PowerPoint
- Configured a **CI-CD** pipeline using GitHub actions to automate the updation of Tableau dashboards and Talend delimited files
- Conducted predictive analysis using regression models in **R** to predict student grades and visualized the pass/fail probabilities

## ACADEMIC PROJECTS

**Depression Detection from social media platforms:** Python 3, Sci-kit learn, Seaborn May 2022 – August 2022

- Led a team of 5 and executed **ETL** process, scrapped data from multiple social media platforms such as Reddit, and Twitter, using snscrape, Reddit API, and transferred data to **MySQL** database to improve data consistency and integrity
- Pre-processed 15,00 suicide posts dataset by removing hashtags, links and evaluated Lemmatization and Stemming techniques
- Performed **content analysis** (topic modeling, sentiment analysis, topic distribution) on the collected data
- Devised a binary classifier model using feature selection techniques like XGBoost, SVM, and Random Forest to differentiate between suicidal and non-suicidal social media posts

**US House Rent Predictor:** Python 3, Kaggle, MySQL, Streamlit January 2022 – May 2022

- Standardized and Preprocessed 75,000 US property listings, loaded into a database for analysis. Employed regression models (Linear, Decision Tree, Gradient Boosting) to identify optimal models for the data
- Developed a **Streamlit** web application to display predicted house rental prices based on input house attributes

**Heart Attack Predictor:** R, ggplot2 November 2021 – December 2021

- Analyzed the cad2 dataset and conducted a statistical analysis using conditional probabilities, and DAGs
- Performed feature selection using stepwise forward selection and AIC, modeled a Naïve Bayes classifier to predict heart attacks, and provided appropriate visualizations using **ggplot2**

**Pneumonia Detector by Chest X-Ray**: Python 3, Keras, Open CV September 2019 – February 2021

- Classified pneumonia in chest X-ray images using transfer learning and evaluated performance using **AUC, ROC**, and **recall**
- Published paper in the International Journal of Engineering Science and Computing (**IJESC**)

## CERTIFICATIONS

- AZ-900: Microsoft Azure Cloud Fundamentals | Microsoft | January 2023