Atharva Urdhwareshe

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Education

Stony Brook University, Stony Brook, New York *Sep 2019- Dec 2020*

Master of Science in Computer Science

Experience

Research Assistant - Stony Brook University (Data Science Lab) *Dec 2019 - Dec 2020*

- **Statistical Inferences on COVID19 Dataset**
  1. Executed statistical inferences (parametric and non-parametric) on COVID19 + AirNow dataset to infer relations between number of cases and deaths per day from January to July 2020.
  2. Evaluated Wald's test, Z-test, T-test (paired and unpaired), Chi Squared test and Hypothesis testing for accurately displaying the dependence.
- **Breast Cancer Prediction**
  1. Diagnosed a model for successful prediction of breast cancer in human cells base on various features (mean radius, texture, perimeter, area, smoothness) using multiple algorithms.
  2. Examined the accuracy of Linear Regression, Logistic Regression, Decision Tree, kNN and K-means clustering.
  3. Using 2 different distances - Euclidean and Manhattan kNN tested 90.6%. Increased the accuracy to 91.8% through Support Vector Machines and achieved highest accuracy with Random Forrest at 93.2%.

Computer Skills & Coursework

Computer Languages Python, C++, Java, Javascript.
Backend and Frontend IBM DB2, Hadoop, MySQL, HTML5, CSS3, Django, jQuery.
Tools IntelliJ, PyCharm, Jupyter-Notebook, google Colab, SQL Workbench, Data Studio, Cloudera VM.
Coursework - Machine Learning, Probability and Statistics for Data Scientists, Theory of Database Systems, Analysis of Algorithms, Simulation and Modeling, Discrete Mathematics, Network Security, Data Science and Software Engineering.

Personal Projects

Hospital Management System (Java | Spring Boot | MySQL | Apache Tomcat | JSP) *Jan 2021- Mar 2021*

- Created a scalable system for hospitals to manage doctors, patients and staff using modular software design.
- Employed RDBMS with JDBC for storage and integrity and used fault tolerant JWT client-side authentication.

Real Time Face Mask Detector (Python | Keras | Tensorflow | OpenCV | Colab**)** *Jun 2020 - Aug 2020*

- Inspected Face mask detection using deep learning libraries (Keras and Tensorflow) to train a model to instinctively detect a face covered with mask or not on the dataset containing images with people with (693 images) and without masks (689 images).
- Peaked an accuracy of 95.1% using Adam optimizer and Binary Cross Entropy loss.

Detecting Drinking Episodes using Smartphone Data (Python | SciPy | Sklearn | Numpy | Pandas) *Jan 2020 - May 2020*

- Developed a model that makes classifications on a 10-second windows of accelerometer data to support the delivery of interventions at real time.
- Retrieved 26,087 rows of data each with 243 features and performed machine learning algorithms.
- Surpassed the accuracy from 77.5% to 85.3% with Random Forest to make classifications of sober(TAC<0.8) and intoxicated(TAC>=0.8)

BotBucket - Static Analysis and Classification of Botnets and Malwares *Oct 2019 - Dec 2019*

- Created an intrusion detection system which analyses according to host and network. Classification of this system is designed to effectively deal with the malware and the obfuscated bot binaries.
- Used recurrent neural networks to train and classify the system with an accuracy of 73%.

Certificates

Deep Learning Specialization from deeplearning.ai on Coursera by Professor Andrew Ng. *Apr 2020 - Aug 2020*
Java, C++ Programming from SSI Institute Pvt. Ltd. Indore, India. *Sep 2017 - Sep 2018*