Abhay Chamu Haridas
ffa5177@psu.edu | (610) 864-9429 | Paoli, PA | LinkedIn

SUMMARY

Highly motivated and dedicated **Data Analyst** with several years of experience designing efficient code in **Python** and identifying problem areas within data streams. Adept at receiving and monitoring data with hands-on experience in implementing **Machine Learning Algorithms**, **Predictive Analysis**, **Exploratory Data Analysis**, **Financial Forecasting**, and **Statistical Modeling**. Ability to synthesize quantitative information and interact effectively with colleagues and clients. Proven track record of generating analytical dashboards for decision making, audit and compliance reporting. Excellent communication and interpersonal skills with strong technical and analytical acumen.

SKILLS

- **Machine Learning:** Classification, Regression, **Neural Networks**, Random Forest, KNN, NLP, SVM, k-Means, PCA, k-Medoids, t-SNE, Decision trees, Bagging, Boosting, Hyperparameter tuning, Supervised/Unsupervised Data analysis, Convoluted Neural Network, Image Transformation, MLP.
- **Programming Languages: Python**, .NET Framework, Java, C, **R**, **SQL**.
- **Competencies:** Data Pre-processing using **Numpy** and Pandas, **Deep Learning**, Computer Vision, Medical Image Analysis, Database Design Concepts, Applied Statistics, Data Visualization, Data Mining, Data Science, Data Analytics, **Machine Learning Algorithms**, Data Structures, **Tableau**, **Knime**, Giphy, Data Driven Decision Making, Large Scale Data Warehouse, **MySQL**, **Hadoop**.

PROFESSIONAL EXPERIENCE

Pennsylvania State University   Malvern, PA
Graduate Research Assistant   September 2021 - Present
- Published Research papers on Predictive Learning, Toxicity Prediction of chemical compounds and Comparative Analysis of heuristic approach to PC||Max.
- Conducted research on Federated Learning, De-anonymization of Blockchain and Risk Analysis.

IRCA Pvt. Ltd.   Bangalore, India
Software Developer   Dec 2019 - Jul 2021
- Independently managed over 50 outlets throughout India for Servo Oil Pvt. Ltd and streamlined the Order placement system.
- **Reduced Order delay time by 400%** by automating daily and monthly purchase schedules based on historical data. Simplified the order tracking system significantly.
- **Reduced workload for over 1500 employees by 30%** by collecting, cleaning and processing data from over 70 major cities in India to create an automated System Inventory Planning algorithm.
- Spearheaded the shift to cloud-based Order tracking and Records keeping by automating Route Planning for companies such as Servo Oil Pvt Ltd., John Distilleries Pvt Ltd., and Kurlon Pvt Ltd.

IRCA Pvt. Ltd.   Bangalore, India
Software Test Engineer   Jul 2017 - Dec 2019
- Ably assisted the Lead Engineer in collaborating with developers and product owners to stay current on product features, and functionality through continuous quality integration.
- Looked beyond testing scripts to check software for memory leaks, security vulnerabilities and anti-patterns that were not covered by established specifications through periodic static analysis.
- **Reduced latency period by 60%** by leading the test team in generating and maintaining timely Test cases, and Test summaries for efficient record of processes.

ACADEMIC PROJECTS

iLenz, Nittany AI Challenge, Penn State: (Medical Image Analysis, Computer Vision, Big data, Deep Learning, MLP)
- Huge dataset of Eye Images were analyzed using Deep Learning. Computer vision was used to clean the noise in the images and transform them for efficient use
- Built a prototype of a classifier that recognized a healthy eye from the diseased eye from eye images using MLP after performing Image transformation and Medical Image Analysis on the dataset.
- Numerous Journals and Research Papers were studied and referred to arrive at the best optimization, and Image Classification techniques.

Detection of Diabetic Retinopathy:(Deep Learning, CNN, Python, Computer Vision for Image Transformation)
- The Dataset containing Fundus images were preprocessed and Image transformation using Computer Vision was performed to match the Near-Infrared spectrum.
- Convoluted Neural Network algorithm was used to classify the images based on the detection of Diabetic Retinopathy.
- An accuracy of 91.2% was obtained after hyperparameter tuning.

Predicting of Diabetic Retinopathy:(Deep Learning, Transfered Learning, Python, Computer Vision)
- The Dataset containing Fundus images were preprocessed and Image transformation using Computer Vision was performed to match Near Infrared spectrum.
- Using Transfer Learning technique, the ResNet50 algorithm was used with a Deep Learning model to predict the severity of the disease. Keras Auto Tuner was used to arrive at the best model with an accuracy of 95%.

Brainwave Controlled Wheelchair:(OpenBCI Ganglion, Python, Data Pre-processing, Machine Learning)
- Electromagnetic signals from the brain were collected using electrodes (EEG) and based on decisive thought, the data was filtered, and screened to match the intended action with an accuracy of 73%.
- The model was built using Python and its libraries, and the data retrieval was carried out using the Linear regression algorithm.

Prediction of Stroke: (Applied Statistical Study, Python, Data Pre-processing, Tableau)
- Data related to Stroke victims and their families were collected from various sources. The data was preprocessed using Python libraries.
- EDA and feature engineering was performed on the data using Tableau.
- Using various statistical tools, a couple of Hypothesis was formed and tested. The findings were cross verified using Machine Learning algorithms.
- An algorithm that predicted the occurrence of Stroke with an accuracy of 94% was designed and findings were presented using the Tableau dashboard.

Designing Restaurant Database : (Database Design Concepts, Oracle, SQL, Cloud computing)
- The general data requirement document was reviewed to create the conceptual design and logical design of the database.
- The Physical Design of the Restaurant database was formed after careful evaluation of normalization levels over multiple iterations.
- The final database was created using SQL on Oracle and submitted as per client requirements.

Data Mining on Pharmaceutical Sales Data : (Datamining, Python, R, KNIME, PCA, Clustering, Giphy, Tableau)
- Data related to the sale of Pharmaceuticals was obtained from various sources, concatenated, and pre-processed using KNIME.
- Exploratory Data Analysis, outlier detection, and Dimensionality reduction through PCA were performed on the data using Python, and R.
- Using Data mining techniques such as Trend Analysis, Associative Rule Mining, Apriori Algorithm, Sequential Pattern Mining, and Clustering, information was obtained from the dataset that displayed patterns in the sale of drugs that helps pharmaceutical companies make better decisions in Inventory Management.

Traffic Signal Timer based on Traffic Dens: (OV7670, HC-SR04 ultrasonic sensor, Arduino)
- The traffic density from each road leading to the junction was computed using Image Processing and compared. Based on the collected density, the traffic signal timer was calculated with a real-time switching option.

Google Developer Student Club, Penn State Great Valley (Project Manager):
- Managed and conducted various workshops, team-building exercises, and professional talks for the student club.

CERTIFICATIONS AND AWARDS

- DeepLearning.ai Tensorflow Developer Professional Certification (2022)
- Google Analytics Individual Qualification by Google Analytics (2022)
- Microsoft Certified: Data Fundamentals(2022), AI Fundamentals (2021), Azure Fundamentals (2021)
- Post Graduation Program in Data Science by INSOFE and Carnegie Mellon University (2021)
- Neural Networks and Deep Learning by deeplearning.ai (2020)
- Zero to Mastery: Python Programming (2019), SQL (2019)
- Object-Oriented Programming by Udemy (2018)
- 20+ LinkedIn Certifications in Financial Forecasting, Excel, Data Analysis, Python for Machine learning, and SQL.
- Participated in Hackathons hosted by HackerRank, Analytics Vidhya, Internshala, Machine Hack.

EDUCATION

- **Pennsylvania State University,** Malvern, PA   Anticipated December 2022
  Master of Professional Studies in Data Analytics
- **Bangalore Institute of Technology,** Bangalore, India   June 2016
  Bachelors in Electronics and Communication Engineering