PRASANTH SAGAR KOTTAKOTA

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EDUCATION

Syracuse University - College of Engineering & Computer Science, Syracuse, NY, USA   August 2022 - May 2024
Master of Science in Computer Science with Data Science Concentration
- GPA: 3.93/4.00 | Expected graduation: May 15th, 2024.
- Relevant Course Work: Data Science, Machine Learning, Social Media and Data Mining, Natural Language Processing, Machine Learning for Security, Data Analytics, Database Management System.

National Institute of Technology Karnataka - Computer Science, Surathkal, KA, IN   August 2016 - May 2020
Bachelor of Technology in Computer Science and Engineering
- Relevant Course Work: DBMS, Data Mining, Digital Image Processing, Cloud Computing, Statistics, Linear Algebra.

WORK EXPERIENCE

Graduate Teaching Assistant, Syracuse University – Syracuse, NY, USA   August 2023 - Present
- Coordinating with Professor J.J Waclawski, Lectured a class of over 60 students, focusing on software implementations.
- Research involves collecting data from cattle herds using 20+ accelerometers. The sensors aim to detect patterns in cattle behavior related to health, productivity, herd direction, and social cohesion, aiming to increase milk production.

Software Engineer, McAfee, Inc – Bangalore, KA, IN   August 2020 - July 2022
- Implemented an Isolation Forest ensemble method classifier for anomaly detection in network traffic, achieving a detection rate improvement of over 16% by leveraging XGBoost for parameter optimization.
- Constructed a Random Forest model as part of advanced machine learning techniques to predict severity of potential attacks, resulting in a 32% improvement in response action performance.
- Leveraged decision trees to automate response actions, categorizing attack types and allocating to respective cores for packet analysis, leading to a firewall performance improvement of over 15%.
- Built pipelines for querying and processing over 10 attributes, including top attacks, anomalies, traffic types, and firewall health status etc.., within real-time dashboard.
- Improved real-time dashboard performance by optimizing querying pipelines and data processing for diverse attributes. Applied Python, SQL, Apache Kafka, Apache Spark, and visualization libraries, resulting in a 20% reduction in load time.

Machine Learning Researcher, NITK Surathkal Research Lab – Mangalore, KA, IN   May 2019 - June 2019
- Utilized the CMU DSL-StrongPasswordData.csv benchmark dataset, comprising keystroke dynamics data from 51 individuals, to develop a fraud detection system.
- Explored various ML algorithms (LSTM, Random Forest, Logistic Regression, KNN, SVM, etc.) on keystroke dynamics data. LSTM outperformed others with over 69.8% accuracy in fraud detection.

PROJECT EXPERIENCE

Reddit-Based Sentiment Analysis of Israel-Palestine Conflict   August 2023 - December 2023
- Utilized Python Reddit API Wrapper, to gather 50,000+ comments and metadata on conflict.
- Performed data pre-processing and employed the VADER sentiment analyzer to categorize Reddit posts into 3 categories positive, negative, and neutral sentiments, enhancing understanding of sentiment trends.
- Analyzed Reddit sentiment trends, correlating with real-time events user spikes and disruptions. Identified over 10 observations including density, word counts etc to provide insights into public sentiment on the Israel-Palestine conflict.

Wearable Device-Based Security: ML Authentication   January 2023 - April 2023
- Expanded internship project to analyze authentication data from wearable devices, encompassing gyro, accelerometer, and magnet data from 34 individuals.
- Evaluated various ML models, identifying a top-performing model with a 29% correlation, indicating authentication from two wearable devices is independent, enhancing security.

Machine Learning in Agriculture Crop Management   June 2019 - May 2020
- Led analysis of 20-year crop data from Indian government, encompassing 500k+ records from various states. Demonstrated leadership by collaborating with a team of three to leverage RapidMiner and SQL for feature extraction and processing.
- Implemented SVR variants (linear, polynomial, RBF, sigmoid, ANOVA, Laplace) with tuned parameters, achieving an outstanding 96.99% correlation for crop prediction.

TECHNICAL SKILLS

- Programming/DBMS/Dev: Python | C | C++| SQL | PHP | Django | HTML | CSS | Js | Haskell | Bash.
- Frameworks/libraries: Scikit-Learn, Keras, PyTorch, Apache Spark, Apache Kafka, Pandas, nltk, matplotlib, XGBoost, Git.
- Data Science Tools: AWS S3, AWS Athena, AWS Sagemaker, Glue, Apache Airflow, Databricks, K8s, Notebook, Tableau.
- Area of Interest: Data Science, Data Analytics, Machine Learning, Artificial Intelligence, Big Data.
- Soft skills: Leadership, Communication, Collaboration, Problem-Solving, Time Management, Adaptability, Attention to detail.

ACHIEVEMENTS

- AWS Certified Solutions Architect - Associate - AWS (2024).
- Google Data Analytics Professional Certificate - Google (2022).
- Received recognition and appreciation from Martin Stecher, McAfee Fellow and Head of Engineering, for making significant contributions to framework enhancements.
- Awards: Syracuse University Graduate Award (Fall 2023 and Spring 2024).