Nitin Reddy Karolla

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Education and Coursework

Master's in Computer Science (Data Science) | GPA: 3.92/4.00   **Expected Graduation - May'2020**
Rutgers - State University of New Jersey, New Brunswick

Coursework: Machine Learning | Introduction to Artificial Intelligence | Probability and Statistics for Data Science | Massive Data Storage, Retrieval and Learning | Data Structures and Algorithms | Data Interaction and Visual Analytics

Bachelor's in Engineering | GPA: 7.92/10 (First Class)   **Jul'2010 - Jun' 2014**
Birla Institute of Technology, Ranchi

Technical Skills

Programming Languages: Python, R, SQL, SAS, C, HTML, CSS, Apache Hive, Apache Spark
Libraries: TensorFlow, Keras, Scikit Learn, Pandas, Numpy, NLTK, OpenCV, Matplotlib, Seaborn, Dash, R Shiny
Tools: MATLAB, Power BI, KNIME, Tableau, MS Office
Research Interests: Machine Learning, Deep Learning/AI, Natural Language Processing, Visualization, Analytics, Data Mining

Industry Experience

AIG, *Machine Learning Intern - Summer Analyst*   **Jun'2019 -Aug'2019**
- **Expense Monitoring – Gifts & Entertainment** *(Python, Power BI, Machine Learning)*
  - Developed and deployed Artificial Neural Network model to detect employee expenses (Concur) involving government officials
  - Achieved increase in coverage effectiveness by 2 folds and efficiency by 35%

HSBC, *Assistant Manager - Applied and Research Analytics*   **Sep'2017 - Jul'2018**
- **Ensemble Model to Score Alerts** *(Python, HiveQL, SQL, Machine Learning, Data Mining, Fraud, Anti Money Laundering)*
  - Developed an ensemble model of Neural Networks, Gradient Boost, and Random Forest to hibernate alerts generated from transaction monitoring systems achieving 30% reduction in false alerts with a risk of 2.5%
- **Facial Recognition for Name Screening** *(Python, OpenCV, Sanctions)*
  - Suggested and built a POC of Facial Recognition technology in the field of Name Screening for reducing the false positives as an alternative to current methodology
- Delivered hands-on training session for more than 150 employees on 'Python for Data Science' and 'Basics of Natural Language Processing'

HSBC, *Analyst - Financial Crime Risk – Decision Sciences*   **Dec'2015 - Sep'2017**
- **Coverage Assessment Automation** *(R, R Shiny, Natural Language Processing, Full Stack Development, Regulatory)*
  - Incorporated the manual coverage assessment by automating mapping algorithm for red flags (sentences) to scenarios (documents) using NLP techniques reducing the turnaround time for coverage assessment from 96 hours to less than 15 minutes
- **Red Flag Search Tool** *(R, R Shiny, Natural Language Processing, Information Retrieval)*
  - Developed an interactive search tool, using R Shiny, to type in a query and search global list to identify similar red flags (sentences) using Levenhstein index, Jaccard index, and semantic similarity obtained using TF-IDF and Wordnet
- **Transaction Monitoring Optimization** *(SQL, Unix, HiveQL, BAE Systems - Norkom, Oracle Mantas)*
  - Implemented and calibrated Anti Money Laundering scenarios for Retail Banking business – US and HK region

EXL Service, *Business Analyst - Digital Analytics*   **Sep'2014 - Nov'2015**
- **Twitter Lead Generation** *(Python, Social Media Analytics, Natural Language Processing, Marketing)*
  - Fetched tweets based on keywords to identify high net worth individuals using NLP techniques such as N-Grams, Name-Entity extraction, Regex, Stemming and Lemmatization etc., achieving a match rate of 2% with the customer's database
- **Insurance Cross-Sell Acquisition Model** *(SAS, Statistical Modelling, Machine Learning, Retail Banking)*
  - Built a cross-sell acquisition model using Logistic Regression and Neural Networks for an Insurance product
  - Validated the model using k-fold validation technique achieving ROC-AUC of 0.85
- Tracked performances for various campaigns of the bank across different channels and products by conducting A/B testing

Academic Projects/Positions

- **News Headline Predictions using Seq2Seq** *(Python, Deep Learning, Natural Language Processing)*
  - Built a Seq2Seq LSTM model to predict the headlines for news articles and compared the results with Subject Action Object extraction technique
- **PyPI Downloads Monitoring Tool -** Outstanding MS Project Award *(Dash, Google Big Query, CSS, HTML, D3, Visualization)*
  - Developed an interactive dash dashboard to monitor live streaming data and analyze historical data to provide trends and insights.
- **Minesweeper AI Bot:** Built a minesweeper agent using multiple constraints - a constraint satisfaction problem
- **Maze runner – Search Algorithms:** Developed a bot that could generate hard mazes using Genetic Algorithm & Hill Climbing, and analyzed various search algorithms such as DFS, BFS and A-star.
- **Teaching Assistant – Data 101:** Flagship CS department's Introduction to Data Science course.