Vignesh Viswanathan

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EDUCATION

M.S. in Computer Science, **The University of Texas at Dallas** (*Present*) August 2019 – May 2021 *(Expected)*

B.E. in Electronics and Telecommunications, **Sardar Patel Institute of Technology, Mumbai** July 2015 - May 2019

TECHNICAL SKILLS

Tools & Languages: Java, C, C++, Python, R, SQL, JavaScript, HTML/CSS, C#, Spark, NoSQL, Flask, Spreadsheets, Shell Script.

Skills: Angular, Swift for iOS App Development, React, Ruby on Rails, Git, AWS, Django, MongoDB, jQuery, Ajax, PHP, VHDL.

WORK EXPERIENCE

Software and Data Engineer, **Exsilio Tech,** Mumbai, India **October 2017 – April 2019**

- Established the independent start-up as part of the incubation process of Texas Instruments Design Challenge, 2017. Built data pipelines (Python, SQL, Hadoop, Hive) to determine product impacts on various customer pipelines and proposed solutions to drive impact for intensive analyses. Authored product patent was filed and approved.
- TensorFlow Implementation ran the ConvNet to classify 7k images, analyzed and modified the hyperparameters to achieve accuracy of 84%. Extracted and trained the neural engine using Pandas and SQL achieving RMSE of 4.3%.
- Image Processing and Embedded core written in C++ improved real-time processing and sync by almost 70%. Our product, the Autonomous Exhaust Based Braking System, commissioned an air-braking system using engine exhaust

Junior Automation Trainee, **Bholanath Precision Eng. Pvt. Ltd.**, Mumbai, India **May 2017 – August 2017**

- Improved data warehousing techniques using direct-path inserts and hash joins on PostgreSQL and improved computation power by 40% and reduced the cost of deployment on AWS EMR by $5000 per year.
- Automated fault reporting and product registration and averted manual work of 20 hours per week by generating and preparing data frames and test cases using Excel, Python, NumPy, Pandas and Scikit-learn.

Software Development Intern, **Internshala**, Mumbai, India **December 2016 – February 2017**

- Improved data mining process and utilized RESTful API's to infer and analyze sales insights achieving 25% higher sales. Managed the Backend of the website, improving the recommendation engine and offering enhanced personalization of service. Co-ordinated with a team of 10 interns to roll out the update within estimated time.
- Performed Statistical Analysis using data visualization and A/B testing to provide 90% better match for services customers were interested in. Identified customer segments using Clustering analysis based on sales data.

ACADEMIC PROJECTS

Fake Review Classifier and Identification on Amazon

- Cleansed the dataset containing more than 15000 reviews of 400 products using AWS Glue and utilized standard core NLP to assign sentiment value for each summary feature for each product. Tested additional 5000 test cases random simulations using Monte Carlo estimation in R and achieved positive accuracy with confidence interval 95%
- Designed model to use Gaussian model and Silhouette Width to review the consistency in the clusters of fake and authentic reviews using Spark, Kafka, Kibana and Python. Test Data Accuracy achieved was 92%.

Classifying Song Genres from Audio Data

- Used pandas and seaborn to aggregate data and visualization to classify given track into either Hip-Hop or Rock. Correctly classified 87% of tracks from a preliminary batch of 5000 audio tracks' data.
- Implemented PCA, Decision tree and Logistic Regression to train model based on energy, acoustic level, bass, etc.

Head of Algorithms at SPRAC, Robotic Committee at Sardar Patel Institute of Technology

- Neural network and algorithm developer with a specialization in image processing. Rendered an algorithm couples with Neural Network training to identify and adjust the Region of Interest of captured video frame in real-time.

CO-CURRICULAR

Graduate Assistant, Big Data and Analytics, **University of Texas at Dallas** **September 2019 – Present**