Shashidhar Pai

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Education

Brown University Providence, RI
Master of Science in Computer Science Major: Machine Learning CPGA: 4/4 *Aug 2021 - May 2023*
Deep Learning, Computer Vision, Data Science, Privacy and Personal Data Protection, Data Visualisation in VR

PES University Bangalore, India
Bachelor of Engineering in Computer Science CPGA: 8.9/10 *Aug 2014 - May 2018*
Machine Learning, Data Science, Advanced Algorithms, Database Management Systems, Social Network Analysis, Image Processing, Information Retrieval

Skills Summary

Languages: Python, SQL, SAS, R Programming
Frameworks: TensorFlow, Keras, Pytorch, OpenCV ,Scikit, NLTK, SpaCy, Plotly, Numpy, Selenium, BeautifulSoup
Tools: Tableau, Teradata, SQLite, Knime, Einblick, QGIS, RStudio, Jupyter Notebook, Git, JIRA

Work Experience

L-Brands - VS&Co. Bangalore
Senior Data Analyst - Enterprise Analytics *Jan 2018 - Aug 2021*

- **Customer Marketing Segmentation**: Analyzed customer profile and transactions at varying levels of granularity, by segmenting the 32 million active customer base into behavioural segments using cluster analysis. This enabled the merchandising and marketing teams to plan efficient **promotions and execute direct marketing campaigns** for VS.
- **Shelf Assortment Project**: The objective was to create a planogram for retail stores across the country. **Ran cluster analysis** on transaction and census related data to divide the stores into different clusters to set a unique assortment plan based on the consumption pattern. Using statistical techniques like **Utility theory, Genetic Algorithm, price sensitivity**, the planogram was created for each cluster that shows what product to run and in what quantity.
- **Customer Analytics**: Offering strategic insights about product marketing activities, store performances and customer behaviour using advance analytical techniques such as **clustering, logistic models, association rule mining, decision tree analysis, profiling**. These reports were directly consumed by the VS and PINK leadership at a weekly cadence.
- **CRM Repeat Models**: Built seasonal CRM model using modeling techniques like **MLE, decision trees, Bagging algorithms and ensemble modeling** that predicts customer's probability of making a purchase in the targeted season. Helped in improving an existing algorithm that segments the customers based on their coupon redemption behaviour. These results are combined to execute the direct marketing campaigns for VS and BBW.
- **Surveillance Video Analytics**: Led the project to **draw insights into the customer's in-store journey and behaviour**. Generated store heat maps and used object detection model YOLO to track customers and footfall statistics.

Nasdaq Bangalore
Intern *June 2017 - July 2017*

- **Recommendation Engine**: Built a hybrid recommendation engine framework based on a combination of collaborative and content based filtering to provide **tailored article recommendations to the clients of Nasdaq**.
- **Investor Targeting Engine**: Developed an algorithm using **decision trees and association rule mining** to help clients target their investors, by analyzing and providing strategic insights involved in their interactions with the investors.

Leadership Experience

Head Teaching Assistant - DATA80 Data, Ethics and Society
Dr Deborah Hurley, Brown University *On-boarding*

Head Teaching Assistant - CSCI 2470 Deep Learning
Dr Ritambhara Singh, Brown University *Oct 2021 - Present*

Graduate Teaching Assistant - DATA 1050 Data Engineering
Dr Samuel S Watson, Brown University *Sept 2021 - Dec 2021*

Projects

Particle Image Classification for CERN - Deep learning (Neural Net-MLP, CNN, Visual Transformer): Worked with CERN on the Large Hadron Collider data to build different models to classify high-energy particles. Achieved the best accuracy of 80.8%. Tech: Python, Tensorflow.

Photo-Realistic Single Image Super-Resolution - Deep learning(GAN, SRGAN, VGG-16, Resnet): Developed a deep learning model to scale low resolution images and videos to high resolution up to a factor of 4X. Tech: Python, Tensorflow

Targeted Color Reassignment - Computer Vision (Clustering, Classification, Segmentation, Masking, Filtering): Designed an algorithm for individualized color identification and targeted color reassignment of objects in an image through shade space mapping. Tech: Python, OpenCV.

Publications

Research Paper: D^{2}ehazing - Real-time Dehazing in Traffic Video Analytics by Fast Dynamic Bilateral Filtering: Third International Conference on Computer Vision & Image Processing. IIIT Jabalpur, India - September, 2018

Honors and Awards

Finalists in **OpenCV Spatial AI contest** sponsored by Intel and Microsoft Azure - 3D conveyor belt - Work in progress
Runner's Up at **CARGO Hackathon**, co-hosted by Deloitte, Earth Hacks and Generation Conscious - October, 2021
Awarded the title of **Lbrands Software Innovator** - Surveillance Video Analytics - September, 2019