Jenil Ashwin Jain

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Education

- **Rutgers, The State University of New Jersey** — New Brunswick, NJ
  Master of Science in Computer Science - Machine Learning; GPA: 3.91/4 — *August 2021 - May 2023*
  Courses: *Introduction to Artificial Intelligence, Mathematical Foundations for Data Science, Data Structures and Algorithms, Machine Learning, Massive Data Mining, Databases for Data Science*
- **Thadomal Shahani Engineering College** — Mumbai, India
  Bachelor of Engineering - Computer Engineering; GPA: 9.14/10 — *August 2017 - June 2021*
  Courses: *Data Structures, Analysis of Algorithms, Advanced Algorithms, Operating Systems, Computer Networks, Database Management System, Software Engineering*

Skills Summary

- **Languages**: Python, SQL, Java, Javascript, C, PHP
- **Frameworks**: Pyspark, Scikit-learn, NLTK, TensorFlow, Keras, Django, Flask, Hadoop, React
- **Tools**: Databricks, GIT, MySQL, MongoDB, AWS
- **Web Development**: HTML, CSS, Bootstrap

Experience

- **ADP** — Florham Park, NJ
  Application Developer Intern — *June 2022 - August 2022*
  - Preprocessed more than 8 billion records using PySpark to predict employee 401k contributions facilitating employers and client resources
  - Reduced average error rate to less than 10% for predicted contributions by adding a clustering model to previous architecture
  - Tested 3 different approaches with models viz Decision Trees, XGBoost, Neural Networks and devised time series forecasting models ARIMA, SARIMA, Facebook Prophet to sense seasonality in data
- **Rutgers University** — New Brunswick, NJ
  Graduate Research Assistant — *January 2022 - May 2022*
  - Analyzed impact of Covid-19 on mental health and wellbeing of over 100 users for a period of 10 weeks based on Google Maps search history
  - Preprocessed and visualized data with 15+ plots to study interconnections recorded on digital devices with numpy, pandas, seaborn and matplotlib
- **Sahu Technologies** — Mumbai, India
  Software Developer Intern — *December 2019 - January 2020*
  - Increased average website engagement by 1.5x by modeling from client's standpoint
  - Fashioned an interactive user interface for an e-commerce website as a part of a full-stack project with Bootstrap
  - Designed SQL queries to correlate data and reduced query response time by 10 seconds

Projects

- **Video-Text Representational Learning**: Code
  - Performed video to text retrieval and vice-versa along with aligned semantics for over 2000 long untrimmed videos and 89 cooking recipes
  - Extracted text features using ResNet along with BERT for video and modeled a hierarchical cooperative transformer to capture 3 levels of hierarchy
  - Achieved recall rate@10 of 0.978 and median rank of 2.2 over test set of 457 videos
- **The Imitation Game**: Code
  - Built 2 ML agents with different neural network architectures to mimic path taken by A* search algorithm in a grid world
  - Attained an accuracy of 92.5% with first agent using dense layers, the second agent with CNN acquired 90% accuracy
  - Accounted for a solvability ratio of 0.6 for 3000 solvable grids within an average timeframe of 3.5 seconds per grid
- **Medicard - Transforming Healthcare in Every Direction**: Code
  - Trained a disease prediction system employing Decision Trees yielding 93% accuracy rate
  - Outlined a progressive web app with an accessibility score of 97 to foretell doctors about patients' medical history
  - Incorporated MVC design architecture and built backend server as a RESTful API with MERN stack to enrich user experience
- **Credit Card Fraud Detection Using a Hybrid Approach**: Code
  - Trained a hybrid model of Self Organizing Maps and Artificial Neural Networks obtaining an accuracy rate of 94.49%
  - Improved upon previous algorithms' accuracy rate by 10% and incorporated in a Django website for banks
  - Presented the idea in Smart India Hackathon, a national level hackathon amongst 2000+ colleges and 5000+ teams
  - Published a research paper explaining the hybrid approach in volume 7 of the International Research Journal of Engineering and Technology *(IRJET)*