# Pavan Kumar Velaga

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## Relevant Experience

- **Research Assistant: Rutgers University - Bromberg Lab**, New Brunswick, New Jersey *Jul 2021 - Present*
  - **Predicting Homologous Proteins using Metagenomic Reads**: Developed a RNN based language model using DNA (nucleotide) sequences of proteins. Further built a classification model using language model encoded metagenomic reads to predict the presence of homologous protein.
- **Senior Data Scientist: Byju's**, Bangalore, India *Jul 2020 - Jan 2021*
  - **Disney Byju's Early Learn App - Recommendation Engine**: Built Recommendation system to suggest right content to users to improve their engagement with the app in order accelerate their learning process. We were able to improve time spent per learning session by more than 11% after the implementation.
- **Data Scientist: Ola Cabs**, Bangalore, India *Nov 2018 - Jun 2020*
  - **Application Fraud Model**: Built Machine learning model to identify fraudulent customers based on their interactions with application to capture signals related to their product awareness and abuse. Hence, reduced the fraudulent 90 DPD customers by 12% by removing 3% of customers from underwritten base.
  - **Data Warehousing & Model Monitoring**: Designed schema and set up a Data warehouse, which is employed in building machine learning pipelines across the organization. Further built an end-to-end Business Intelligence pipeline on top of it to automate the entire model monitoring process.
  - **Credit Risk Modelling**: Built a Machine Learning models to assess credit risk of customers using transit Behavior and credit bureau data. Further deployed these models in production environment for facilitating real-time decision making to better customer experience by giving approvals instantly, and also reduced 90 DPD risk rate by 60 bps.
- **Data Scientist - Analytics: Amazon**, Bangalore, India *Jun 2017 - Nov 2018*
  - **Selection Analytics**: Owned day-to-day analytics of the Amazon India product selection team. Developed an analytics framework to monitor current product selection, and further recommended right section to add by conducting competitor benchmarking, which resulted in an additional 3% revenue through new selection per month.
  - **Customer Segmentation**: Segmented customers based on customers' behavior into value and premium for marketing campaigns using a ML model in python that further enhanced the click-through rate by 30 bps.
- **Data Scientist: Affine.ai**, Bengaluru, India *Feb 2016 - Jun 2017*
  - **Markdown Optimization Tool**: Developed pricing models using machine learning algorithms. Simulated all possible scenarios and suggested an optimal pricing strategy to the client, which improved client's revenue by 12%. Awarded the employee of the quarter for the contribution to the project.
  - **Shoe Sales Trend sensing**: Implemented an ensemble model with Machine Learning algorithms to predict sales which enabled inventory planning and allocation of inventory across the channels. Further, this model was used in minimizing opportunity loss for the client by improving revenue by 9%.

## Education

**Rutgers University** *New Brunswick, USA*

- ***Master's in Computer Science 4.0*/4.0*** *Jan 2021 - Dec 2022*

*Relevant Course Work*: Data Structures and Algorithms , Databases & Intro to AI

**Manipal Institute of Technology** *Manipal, India*

- ***Bachelor of Technology in Electrical Engineering*** *Jul 2011 - May 2015*

*Relevant Course Work*: Linear Algebra, Calculus, Statistics & Computer Programming

## Projects

- **Predicting HOMO-LUMO energy gap - KDDCup21**: Built a Ensemble multiple GNN models based solution to predict HOMO-LUMO energy gap of molecules given their 2D molecular graphs to improve baseline metrics by 10%.
- **IEEE Fraud Detection - Kaggle**: Built a fraud detection model on real-world e-commerce transactions data by predicting fraud probability using implementing LightGBM & Neural Network algorithms.
- **Understanding Cloud Organization - Kaggle**: Created a framework to classify cloud organization patterns from satellite images which could reduce uncertainties in climate projections using CNNs, Pytorch

## Skills

- **Languages**: Python, R, SQL, Hive **Technologies**: AWS, Google Cloud, Tableau, PyTorch, Keras, Git, Hadoop, Fastapi
- **Core Expertise**: Machine Learning, Deep Learning, Data Analytics, Statistical inference, A/B Testing