# Rupsa Chakraborty

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## Education

**Rutgers University**,New Brunswick, NJ, USA Sep 2021 - May 2023 (Expected)

- **Master of Science, Computer Science**
- Relevant Coursework:Artificial Intelligence, Linear Algebra and Optimization, Data Structures and Algorithms, Machine Learning,Database Management,Data Interaction and Visual Analytics

**Vellore Institue of technology**, Chennai, India Aug 2015 - Aug 2019

- **Bachelor of Technology, Computer Science and Engineering**
- Relevant Coursework: Data structures and Algorithms, Database Management Systems,Image Processing,Discrete Mathematics

## Technical Skills

- **Programming Languages**: Python,Javascript,Scala,C++, HTML,CSS,Shell Scripting
- **Libraries and Frameworks**:Express,NodeJS, NumPy, Pandas, Scikit-learn, NLTK, TensorFlow,Pytorch, Seaborn, Matplotlib, D3.js
- **Database and Tools**: MySQL,MongoDB, Airflow,Spark,Kafka, Tableau
- **Cloud Services**:AWS Redshift,S3,EC2

## Experience

**Rutgers University,Research Assistant** Jun 2022 - Aug 2022

- Coded baseline models for Active Learning for object detection pipeline, by training DETR and other models for custom dataset.
- Leveraged tools like MakeSense.ai tool to annotate about 3000 images.
- Trained on PASCAL VOC dataset,which led to MAP of 62.3720. at 90000 iterations on the final baseline model which was comparable to the original paper which had used the COCO dataset. **Stack:Python,Pytorch**.

**Phenom People Private Limited, Product Development Engineer -1** Feb 2021 - Jul 2021

- Built data pipelines by developing ETL scripts using python and Sql, to source and transform the data.
- Designed scripts to automate data validations and report generations, reducing man hours required for data validations by 20%.
- Ensured adherence pep8 standards and proper coding practices, limiting technical debt to 5%.
- Reduced load time by 10 times by migrating to Amazon Redshift from PostgreSQL, leveraging the Massively Parallel Processing Architecture.**Stack: Python,SQL,Airflow,AWS**.

## Academic Projects

**Massive Data Mining**Access Jan 2023-Mar2023

- Employed pySpark to give friendship on recommendations using data consisting 49995 records.
- Performed Market basket analysis to find frequent itemsets on given browsing data consisting 31101 records.

**SQL Query Executer Application**Access Jan 2022 – Apr 2022

- Deployed a cross platform multi database query parsing engine that executes SQL queries in different databases namely MySQL and Redshift,reduces the response time by by 35% with the help of indexing.

**KOBE- NBA Stats**Access Jan 2022 – Apr 2022

- Built an interactive analysis dashboard to evaluate basketball metrics by using ReactJS,Python, MySQL and ScikitLearn.Used PCA and KNN to explore the patterns in the data.

**CampR-Campgrounds Website**Access Nov 2018 - Apr 2019

- Created a website using to view and post campgrounds, ratings and reviews using MongoDB,Express and NodeJs stack.
- Incorporated MongoAtlas for cloud data store, deployed the website on heroku.

**What's cooking Kaggle**Access Aug 2018 - Apr 2019

- Developed a model to predict the type of cuisine from the list of ingredients given using SVC.

– Concepts of text mining such as use of lemmatization,Tf-idf on the text data and was able to achieve a final test score accuracy of 81.043% with the highest ranked on leaderboard score being 83.216%.

## Publications

**Image Processing based Edibility Analysis of Spinach Leaves** Oct 2018 - Feb 2019

– Published a paper **"International Journal of Recent Technology and Engineering (IJRTE)'** in March 2019. Volume 7, Issue 6. ISSN No. 2277-3878,Implemented basic supervised learning algorithms for edibility analysis on data.