Prudhvi Venkata Paramkusam

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Education

Indian Institute of Technology Ropar *Ropar, India.*

B.tech in Electrical Engineering. Current C.G.P.A **8.51/10.**

Minor in Computer Science and Engineering.

Andhra Pradesh Board of Education *Tirupai, India.*

BIEAP (Class 12): **979/1000.** BSEAP (Class 10): **9.8/10.**

Skills

Programming Languages C, C++, Python, SQL, HTML, CSS.

Work Experience

Zeotap India Pvt. Ltd. *WFH*

Data Scientist intern *Oct, 2020 - April, 2021.*

- Worked on Cleaning, Scoring, and Graph embedding in huge network graphs(ID graph) with nodes and edges in Billions using state-of-the-art scalable algorithms in pyspark using graphframes, and networkx libraries etc .
- Completely designed and implemented the data partner(dp) scoring pipeline which scores a data partner depending on the anomalous data given by that data partner. Data Partners are scored based on 8 metadata functional features of the graph.
- The data partners(dps) are also scored using comparative feature vector-based scoring wherein each dp is assigned a feature vector based on structural features and a few metadata features of the graph and an algorithm inspired from PageRank is used to score the data partners.
- Cleaning pipeline - Found connected components within the graph and applied clustering algorithms like Power Iteration Clustering and Louvain Detection to find communities within large connected components. Studied the graph embedding algorithms like GraphSage and Graph Attention networks(GAT) to find the Low-dimensional vector embeddings of nodes in large graphs.

National Taipei University of Technology *Taipei, Taiwan.*

intern *May - July 2019.*

- Worked on a **Large Parking Station Management System** for the China Motor Corporation(CMC) under professor **Leehter Yao**.
- Wrote a program to efficiently schedule the charging interval of a vehicle in the parking lot based on its departure time and current battery charge status of the vehicle. **Linear Programming** with the GLPK library was used to perform this task.
- Designed a website application that shows the status of the Parking lot(Number of Vehicles, their current Battery Charge etc).
- Worked on **CANBUS** to enable the communication between the Battery management system and the charge management system.

Monash University *WFH*

Research intern *June - July 2020.*

- Worked on a Research Project in Virtual Reality(VR) under **Dr Jarrod Knibbe** to predict pointing behaviour during room-scale target selection.
- The working prototype consisted of 27 targets in 3D Virtual Space and users were asked to point those targets.
- Developed an SVM model to predict/early predict the target in real-time, given the coordinates of the index finger during the flight.
- Using these prediction models, we aim to better understand how users point in Virtual Reality and facilitate early target prediction.

Projects

Unpaired Image to Image Translation with Cycle-Consistent Adversarial Networks - Git *April 2020, IIT Ropar.*

- Implemented the CycleGAN for the translation of horse images to zebra images and zebra images to horse images.
- A 24 layered ResNet based model with 9 consecutive residual blocks is used as the generator and 30*30 Patch GAN architecture is used for the discriminator and Instance Normalization is used instead of Batch Normalization(as given in the paper).
- The model is optimized using Cross Entropy function for the generator and discriminator losses and Mean Absolute Error for the cycle consistency loss and identity loss. The model is trained for 200 epochs and the results are quite satisfactory.

Review Classification of Amazon Fine Food using Decision Tree and Random Forest - Git *February 2020, IIT Ropar.*

- The Amazon Fine Food dataset having a total of 10 feature attributes consisting of food reviews was used.
- The text review was pre-processed by removing stop words, punctuation marks and transforming all the words into a uniform representation.
- Decision Tree Classifier, Random Forest Classifier from the sklearn library was used to learn a decision tree and a random forest using both instance bagging and feature bagging. The least error model was chosen by testing the model with varying hyperparameters like maximum leaf nodes, depth of the tree, splitting criteria and the number of instances, features and trees in the random forest.

Relevant Courses

Computer Science Machine Learning, Computer Vision, Data Structures and algorithms, Operating Systems, Introduction to Databases.

Mathematics Optimization Techniques, Linear Algebra, Probability and Stochastic Processes, Differential Equations, Calculus.

Position of Responsibility

Dance Club Mentor *2019-2020*

Mentor and Core member of the Institute Dance Team.

Mentor ISMP *2017-2018*

Mentor in the Institute Student Mentorship Programme(ISMP) of the college.

Miscellaneous

JEE Rank Secured a rank of **4352** in JEE Advanced 2017 and a rank of **8052** in JEE Mains 2017.

BITSAT Achieved a score of **350/450** in BITSAT 2017.

EAMCET Secured a rank of **665** in EAMCET(T.S)-2017 and **1839** in EAMCET(A.P)-2017.