

Pushpendra Singh

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Education

Indian Institute of Technology (BHU), Varanasi

Bachelor of Technology

St. Cecilia's Public School

Senior School

CPI- 8.12

Nov. 2020 – May 2024

91.40%

2018 - 2019

Experience

Decision Analytics Intern

EXL Service

May 2023 – July 2023

Gurgaon, India

- Developed a job description generator built on top of the **GPT 3.5** large language model.
- Used prompt-engineering techniques to improve model response and generate outputs as per user requirements.
- Built a resume-job description matching system by utilizing pre-trained transformer models.
- Performed extensive data cleaning and data preprocessing, including information extraction from jobs and resumes' dataset using the named entity recognition technique.
- Used word embeddings learned by the transformer models and implemented matching rules to calculate similarity.
- Evaluated the models' results using precision at k metric by comparing it to a manually annotated dataset. Achieved a maximum precision of 0.84.

Projects

Music Style Transfer

- Implemented neural style transfer to stylize a musical genre as another genre.
- Performed data preprocessing, by taking advantage of open-source libraries, on the dataset containing over 300 audio files in MIDI format, each of classical and jazz-style piano.
- Utilized Tensorflow and Keras to build and train sequence-to-sequence models, including a model containing an FC network connected to two GRU units followed by another FC network, and another model consisting of a 1D CNN layer, 2 LSTM layers, and a fully connected layer, among other potential candidate models, on a custom-defined loss function to stylize classical music as jazz and vice versa.
- Achieved an RMS error of the order of 1.0 upon training for 1,000 epochs.

Bank Boosting

- On the dataset (having 40,000+ rows, 20+ features) containing a bank's client information and details of marketing campaigns undertaken, conducted extensive data cleaning and exploratory data analysis to derive insights.
- Utilized Scikit-Learn to iteratively build and evaluate different machine learning models to predict if a customer will subscribe to the bank's term deposit.
- The XGBoost model, after extensive hyperparameter tuning using a Tree-Structured Parzen Estimator approach, achieved a micro-averaged precision score of 0.92.
- Used techniques like SHAP, monotonic constraints, and partial dependence plots (PDP) to interpret model outputs.

Technical Skills

Languages: : Python, R, Java

Database: MySQL

Data Visualisation Tool: Tableau

Libraries/Frameworks: PyTorch, TensorFlow, Keras, Scikit-Learn, Pandas, NumPy, Matplotlib

Machine Learning and Deep Learning: Linear Regression, Logistic Regression, Support Vector Machines, K-Nearest Neighbors, Decision Trees, Random Forest, Gradient Boosting Algorithm, K-means clustering, Principal Component Analysis, Neural Networks, CNN, RNN, Transformers.

Position Of Responsibility

Publicity Manager

Spardha'22

August'22 – October'22

IIT (BHU) Varanasi

- Led a team of 20 executives to strategically enhance Spardha participation through targeted publicity efforts.
- Managed full-scale fest publicity campaign, leading to an impressive 80% increase in external participation
- Managed a team of 100+ members to coordinate the Publicity, Logistics, and Operations of the Fest.