JITESH PABLA

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EDUCATION

Master of Science - Computer Science **August 2019 – May 2021**
Arizona State University, Tempe, AZ GPA: 3.91/4.0

Bachelor of Technology (with honors) - Computer Science and Engineering **July 2015 – May 2019**
Jaypee Institute of Information Technology (JIIT), Noida, India CGPA: 8.1/10

TECHNICAL SKILLS

Languages: Python, C++, SQL, Lua, JavaScript, Java, PHP, C
Misc: *Tools:* Git, GitHub, Jupyter Notebook, Anaconda, Agile development; *Web:* HTML, CSS, JQuery, D3.js, Flask, Bootstrap; *Machine Learning:* NumPy, Pandas, Scikit-learn, Matplotlib, Keras, PyTorch, TensorFlow; Databases: PostgreSQL, Hadoop, Spark;
Certifications: Deep learning specialization - deeplearning.ai (Coursera)

WORK EXPERIENCE

Web Developer, Arizona State University, USA **November 2020 – May 2021**

- Maintained and Edited the websites for different schools within ASU's official domain via Drupal, HTML, CSS, and PHP.
- Migrated the data of over 28 websites from Drupal 7 to Drupal 9 with migration tools by creating Extract Transform Load (ETL) pipelines and utilizing SQL to understand and manipulate the large database.
- Designed and built a new website - crimeandjusticenews.asu.edu by applying the latest ASU web standards and front-end design.
- Managed the team's kanban board to deliver results on time and increase work efficiency by as much as 10 percent.

Graduate Service Assistant (Research), Arizona State University and Mayo Clinic, USA **January 2020 – May 2020**

- Classified 50k COVID-19 articles related to vaccines and therapeutics by scraping Google search results to obtain noisy data and training a scientific-text-based Bidirectional Encoder Representations from Transformers (BERT) model called SciBERT.
- Ranked COVID-19 articles for queries relevant to vaccines and therapeutics by utilizing BERT as an embedding generator and finding each article's Cosine similarity with keywords related to vaccines and therapeutics.
- Identified Randomized Controlled Trials (RCTs) from over 50k highly imbalanced PubMed articles by modifying the BERT architecture and manipulating its inputs along with various NLP techniques using PyTorch and transformers.

Software Engineer, Google Summer of Code 2018 Participant with LuaRocks **June 2018 – August 2018**

- Refactored the core functionalities of LuaRocks commands for - listing, uninstalling, and showing details of packages, searching and installing rocks from the web, opening documentation, linting the rockspec, selecting a rock-tree, etc., to modularize them.
- Programmed a complete Application Programming Interface (API) to provide access to the LuaRocks functionality using Object-Oriented design patterns and used Git extensively for contributing to the main code-base.
- Designed a responsive and interactive web-based GUI using HTML, CSS, Bulma, and Vue.js to give access to the LuaRocks functionality. Interfaced the GUI with the LuaRocks-API in the backend using CGILua.

Python Developer Intern, Internity Foundation and Rannlab Technologies Pvt. Ltd., India **June 2017 – August 2017**

- Applied machine learning models like - K Nearest Neighbours (KNN), Support vector machines (SVMs), logistic regression, etc. for classification on various datasets from Rannlab Technologies's clients by utilizing NumPy, Pandas, and Scikit-learn.
- Spearheaded creating a chatbot by implementing a seq2seq model using TensorFlow to showcase it to potential company clients.

PROJECTS

Data Driven Disaster Response **August 2020 – December 2020**

- Led a team of six people by organizing meetings, delegating work, and tracking tasks via a kanban board to design an interactive D3.js based dashboard for visualizing a city's social media data to aid the disaster response during a natural disaster.
- Cleaned and Categorized the social media messages into resource categories using statistical metrics and Latent Dirichlet Allocation (LDA) and applied rule-based sentiment analysis using NLTK.
- Developed a set of interconnected visualizations, including - line charts, pie charts, heat maps, etc., to view the frequency of a resource need or a particular emotion in any part of the city during any time.

Clinical Semantic Textual Similarity (STS) **August 2019 – December 2019**

- Preprocessed the clinical text to remove stop words, punctuation, etc., and utilized various word2vec pre-trained models to extract token embeddings to create a single vector representation for each sentence.
- Fine-tuned multiple BERT models on the given STS dataset and extracted vector representation for each sentence.
- Engineered several similarity features based on the extracted sentence vectors, applied gradient boosting regression, and grid search to achieve a Pearson correlation greater than 0.84 between the ground truth and the model's predictions.