DIVYAM SHARMA

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EDUCATION

University of Michigan – Ann Arbor Ann Arbor, MI
M.S. in Data Science (GPA: 3.826) Aug 2023 – Dec 2024
Courses: Natural Language Processing, Applied Machine Learning, Discrete Mathematics, Data Structures and Algorithms, Data Manipulation and Analysis, Statistical Modeling, Regression Analysis and Inference

Birla Institute of Technology & Science, Pilani Pilani, India
B.E. in Electrical and Electronics Engineering, Minor in Data Science (GPA: 8.59/10) Jul 2017 - Jun 2021
Courses: Data Mining, Neural Networks and Fuzzy Logic, Probability and Statistics, Optimization, Differential Equations, Applied Statistical Methods, Object Oriented Programming, Artificial Intelligence, Statistics, Algebra, Calculus

SKILLS

Libraries & Frameworks: NumPy, Pandas, PyTorch, Matplotlib, Seaborn, Scipy, Scrapy, Scikit-learn, Flask, NLTK, Spacy, Gensim, Keras, TensorFlow, Beautiful Soup, OpenCV

Tools & Technologies: Tableau, PowerBI, Hive, Hadoop, MapReduce, PySpark, Apache Airflow, MLflow, AWS SAM, S3, Lambda, GCP (BigQuery), Excel, Git, Heroku, Node.js, Angular.js, Express.js, JIRA, Confluence

Languages: Python, R, Java, C/C++, SQL, MySQL, MongoDB, HTML, CSS, PHP

WORK EXPERIENCE

Plentify **Cape Town, South Africa**
Machine Learning Engineer Intern May 2024 – Jul 2024
- Implemented a RAG Bot for Chat Summarization and Expert Identification, leveraging Pinecone database and LlamaIndex for retrieval augmentation, enhancing response generation with GPT-3.5 improving team query search efficiency by 30%
- Developed an XGBoost Model for Water Flow detection and deployed it on AWS using SAM for IaC comprising S3 and Lambda utilizing S3 Triggers and a Docker container for the model

Micron Technology **Hyderabad, India**
Data Scientist Jul 2021 – Jun 2023
- Designed Supervised Learning **predictive regression** models on semiconductor manufacturing data with robust statistical hypothesis testing, reducing the need for physical wafer checks by **33%**, saving **$1.2 million** in cost and **3200 work hours** per year
- Innovated and disclosed for patent a new **35.3%** more efficient **Feature Selection Algorithm** post an in-depth exploratory data analysis on high-dimensional data and received an **Innovation Award** for the same
- Developed a **Keras** Deep Learning **CNN** model with data augmentation and mask preprocessing for wafer images before and after a deposition process to identify healthy and defective wafers with a **96.4%** recall

Amazon India **Bengaluru, India**
Software Developer Intern Jan 2021 – Jun 2021
- Automated the Seller Registration **UI Tests** by engineering the algorithm for resetting test sellers' states dependent on other team's pages, reducing the development effort by **30%** on UI Testing
- Deployed on **Selenium** and conceived unit tests for the backend with **JUnit** and **Mockito** while for front-end with **React** and **Enzyme**

PROJECTS

Deep Learning-Based Demand Forecasting for Retail Products May 2024 – Jul 2024
- Engineered a deep learning **LSTM** model to forecast demand for 100,000+ retail products using the **Kaggle M5** Forecasting dataset, achieving a **21.2% improvement** in forecast accuracy over the other peer submissions
- Drew insights from extensive EDA, feature engineering, and model evaluation; identified significant potential for improving inventory management and supply chain efficiency through better demand forecasting

LLM Story Completion Tool for Creative Writing Enhancement [HuggingFace Link] Feb 2024 – Apr 2024
- Developed an LLM-based tool for story-ending generation, finetuning a state-space model SSM-Mamba achieving a BERT score of 0.878 and a ROUGE score of 0.186 with Perplexity 82.5 on ROCStories Corpora
- Deployed state-of-the-art NLP techniques - Chain-Of-Thought prompting and Parameter-Efficient Fine Tuning (PEFT) using LoRA for limited GPU. Contributed the novel SSM model to the HuggingFace community, marking a pioneering contribution

Innovative Prompt Engineering for Zero-shot and One-shot Learning Sep 2023 – Nov 2023
- Optimized prompts for zero-shot and one-shot text generation utilizing GPT-2, Gemma-2b, Flan-T5, OPT-2.7B, Mistral-7B, GPT-3.5 achieving classification accuracy improvements by up to 30% on the HellaSwag dataset
- Evaluated comprehensiveness of prompt structures and instruction styles leading to a 25% enhancement in model responsiveness and informed best practices for instruction-finetuned NLP models in minimal data scenarios

LEADERSHIP EXPERIENCE

Graduate Student Instructor – University of Michigan, Ann Arbor Jan 2024 – Present
- Leading a lab discussion for the course *STATS 206 Introduction to Data Science* as part of the instructional team for the undergraduate course offered by the Department of Statistics, additionally holding office hours for doubt-solving and also grading submissions

Internship Coordinator – Placement Unit, BITS Pilani, India Jun 2020 – Dec 2020
- Represented as Campus SPOC for engaging with **200+** companies to provide Summer Internship opportunities to the class of 2022
- Onboarded **100+** companies for internships with a **23%** YoY growth in unique offers and an **18%** hike in average stipends

Committee Member, Pride+ Allies Global ERG, Micron Technology Nov 2021 – Jun 2023
- Led the India chapter of the global Pride+ Allies community at Micron, where I initiated **10+** programs to break the biases prevalent in the workspace and society against LGBTQIA+ community members, fostering diversity and inclusion