Krishna Sharma

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Education

- **University of Michigan - Dearborn** — Dearborn, MI
  Master of Science in Data Science; — *August 2024 - Present*
  Relevant Coursework: *Database Systems, Data Mining, Deep Learning, Big Data Analytics and Visualization, Machine Learning, Multivariate Statistics, Models of Operations Research*

- **National Institute of Technology, Jalandhar** — Jalandhar, India
  Bachelor of Technology in Industrial and Production Engineering; — *August 2020 - June 2024*
  Relevant Courses: *Introduction to Data Analytics, Statistical Computational Techniques, Data Structures and Algorithms, Managerial Statistics, Operations Research, Simulation of Production Systems, Quality Control and Assurance, Applied Mathematics, Quantitative Analysis*

Experience

- **University of Michigan - Dearborn** — Dearborn, MI
  Research Assistant — *Sep 2024 - Present*
  - **Big Data Analytics**: Generated Research Data using Software, processed and curated the data, followed by data cleaning, feature engineering, smart analytics to analyze the data coherently aligned with the research objectives and plan of the project.
  - **CI/CD Pipeline Development**: Developed the CI/CD pipeline for the project, employing automation scripts for seamless execution in the project.
  - **AI Twin Model Development**: Developed and deployed a scalable Surrogate AI twin physics-governed model for predictive modeling.
  - **Data Integration**: Enhanced data pipeline processes, utilizing ETL frameworks and tools to ensure data-driven insights were readily available for analysis.

- **Zomato Ltd.** — Gurugram, India
  Data Scientist — *Jan 2024 - Jun 2024*
  - **Recommendation Systems**: Worked on recommendation systems model (Collaborative filtering) and personalized menu suggestions based on customer purchase history and regional food preferences.
  - **Time-Series Analysis**: Conducted Time Series Analysis to predict seasonal trends in orders.
  - **Dashboard Visualization**: Visualized user and restaurant vectors and was able to recommend restaurants to users with 89 percent accuracy.
  - **Repository Management**: Maintained and documented code in GitHub repositories to ensure version control and effective collaborative development, supporting efficient project workflows.

Skills

- **Programming Languages**: Python, R, C/C++, Javascript, Typescript, Fortran
- **Data Science and Machine Learning**: PyTorch, Scikit-learn, Tensorflow, Keras, Deep Learning, Time Series, NLP, Statistics, SQL, Pandas, Exploratory Data Analysis (EDA), Large Scale Data Analysis, Statistical Analysis, Model Validation, Machine Learning, Data Warehouse Management
- **Web Development Frameworks**: NextJS, React Native, Django, Flask
- **Programming Skills**: Data Structures and Algorithms, OOPS, RDBMS, Code Optimization
- **Cloud Computing and DevOps**: AWS, Docker, Kubernetes, Microsoft Azure and Cloud Platforms
- **Data Analysis**: MongoDB, MySQL, Tableau, Power BI
- **Tools/Frameworks**: VSCode, PyCharm, Apache PySpark, Git/Github, MLFlow, LaTex, Excel
- **Soft Skills**: Innovative, Efficient Task Management, Initiative, Adaptability, Interpersonal Skills Projects

Projects

- **Master's Thesis Project**: Developed a surrogate machine learning framework to accelerate micromechanical simulations using Generative Surrogate AI, demonstrating significant reductions in computation time while maintaining high accuracy.
- **Alzheimer's Detection and Prognosis**: Built a multi-class classification model for early Alzheimer's stage detection and a temporal forecasting model to predict the evolution of clinical metrics based on patient history.
- **Spatio-Temporal Traffic Modeling**: Conducted a comparative study of traffic forecasting using LSTM and a spatio-temporal Diffusion Convolutional Neural Network on the PEMS-BAY dataset, incorporating a spatially aware adjacency matrix to model traffic flow with diffusion dynamics.
- **Netflix Recommendation Engine**: Implemented collaborative filtering techniques, leveraging user-item interaction data to recommend movies and shows based on user preferences. Deployed the recommendation engine as a REST API using Flask and Docker, ensuring scalability and seamless integration into existing systems, boosting user engagement.