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*

- **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, Simulation of Production Systems, Quality Control and Assurance*

Experience

- **University of Michigan - Dearborn** — Dearborn, MI
  Graduate Research Assistant — *Sep 2024 - Present*
  - **Crystallographic Texture Generation**: Generated crystallographic textures using the Texture Evolution algorithm governed by diverse loading conditions with varying intensity factors.
  - **CI/CD Pipeline Development**: Developed the CI/CD pipeline for the project, employing automation scripts for seamless execution.
  - **AI Twin Model Development**: Developed and deployed a scalable AI twin physics-governed model for predicting micro-mechanical properties in crystallographic materials.

- **Zomato Ltd.** — Gurugram, India
  Data Scientist — *Jan 2024 - Jun 2024*
  - **Recommendation Systems**: Worked on recommendation algorithm (Collaborative filtering) and personalized menu suggestions based on customer purchase history and regional food preferences through deep neural networks.
  - **Time-Series Analysis**: Conducted Time Series Analysis to predict seasonal trends in orders.
  - **Dashboard Visualization**: Visualized user + restaurant vectors and was able to recommend restaurants to users with 89 percent accuracy

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)
- **Web Development Frameworks**: NextJS, React Native, Django, Flask
- **Programming Skills**: Data Structures and Algorithms, OOPS, DBMS
- **Cloud Computing and DevOps**: AWS, Docker, Kubernetes
- **Data Analysis**: MongoDB, MySQL, Tableau, Power BI
- **Tools/Frameworks**: VSCode, PyCharm, Apache PySpark, Git/Github, MLFlow, LaTex, Excel

Projects

- **Masters Thesis Project**: Physics Based Surrogate AI Modeling for Faster Finite Element Analysis (FEA) Simulations. This research proposes a novel solution using Generative Surrogate AI to drastically accelerate computation times while preserving accuracy
- **End to End MLOps Implementation of Web App - Wine Quality Prediction**: Developed ML pipeline for Wine Quality Prediction dataset. Worked on the CI/CD Pipeline of the Web App. Deployed the app on AWS S3.
- **EV Adoption Rates and Geo-Spatial Infrastructure Analysis**: Led a team of 3 to develop an explainable Predicitve ML model for EV sales covering Spatial analysis of State-Level Infrastructure Density Mapping. Feature Engineering and EDA for all the features followed by Statistical Testing. Evaluated all the models based on the metrics. Also Hosted a Visualization Dashboard on PowerBI
- **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.

Volunteering

- Research Assistant (University of Michigan)
- Student Volunteer - Indian Graduate Student Association (IGSA)