Pranjal Mittal

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B.TECH
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EDUCATION

- **National Institute of Technology, Kurukshetra** 2025
  B.TECH in Productional and Industrial Engineering *CGPA/Percentage: 7.4118*
- **SD Public School** 2020
  Class 12th CBSE, Uttar Pradesh *CGPA/Percentage: 92.4*
- **Grain Chamber Public School** 2018
  Class 10th CBSE, Uttar Pradesh *CGPA/Percentage: 88.4*

Institutional Project

Artifical Neural Networks and Data Analysis January 2024-July 2024

• Developed an ANN model using **TensorFlow** and **PyTorch**, integrating **CNNs, RNNs, and Transformer-based architectures** for predictive analytics.
• Optimized performance with **AdamW optimizer, Bayesian tuning, dropout, and batch normalization**, leveraging **GPU acceleration (CUDA, TensorRT)** and **AWS SageMaker** for deployment.
• Implemented **attention mechanisms, transfer learning, and model compression (quantization & pruning)** to enhance efficiency and real-time applicability.
• Achieved superior predictive accuracy over traditional methods, with future improvements planned in **reinforcement learning, explainable AI (XAI), and federated learning**.

Personal Projects

- Virtual Production System

This project creates a **cloud-based production management system** to **simulate, monitor, and optimize** manufacturing workflows. It enables **real-time scheduling, resource tracking, and process improvements** using web-based dashboards and data analytics. The system enhances **collaboration, efficiency, and decision-making** without relying on AI or IoT.

- Digital Twin for Smart Production

This project creates a **digital twin** of a manufacturing process to enable **real-time monitoring, simulation, and optimization**. It uses **simulation tools (MATLAB/Unity), cloud storage, and data visualization (Power BI/Grafana)** to improve production efficiency. The system collects **historical and real-time data**, models different production scenarios, and provides insights via a **dashboard** for better decision-making. Key benefits include **reduced downtime, improved workflow efficiency, and enhanced collaboration**. Future enhancements include **ERP integration** for scalability.

Technical Skills

Technical Skills: Salesforce, Business Requirements Documents, VlookUp, Pivot Tables, Anaconda, Jupyter Notebook, MySQL, Power BI, Programming.
Soft Skills: Communication Skills, Leadership and Management Skills.