Tushar Gupta

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Education

- **National Institute of Technology** — Raipur, Chhattisgarh
  Master of Computer Applications — *August 2022 - July 2025*
- **Dr. B.R. Ambedkar University** — Agra ,Uttar Pradesh
  Bachelor of Computer Applications — *July 2017 - Oct 2020*

Relevant Coursework

- Data Structures
- Operating System
- Computer Networking
- Database Management
- Machine Learning
- Cloud Computing
- Object-Oriented Programming (OOPS)

Technical Skills

- **Languages**: C/C++, Java, Python, JavaScript, SQL
- **Tools**: Git/Github, Vscode, PyCharm, Docker, MySQL, MongoDB
- **Platforms**: Windows, Kali-Linux, Ubuntu

Selected Projects

- **AmeX Exit Prediction** | ***Python, Machine Learning, ANN*** ***(Feb '25)***:
  - Developed a **Deep Learning Model** to predict customer churn using the **American Express** dataset.
  - Implemented an **Artificial Neural Network (ANN)** with two hidden layers using TensorFlow/Keras, optimized with the Adam optimizer and Binary Crossentropy loss function.
  - Achieved **85% accuracy** and a **65% ROC-AUC score**, and evaluated model performance using a confusion matrix.
- **CodeSphere - Coding Platform** | ***ReactJS, NodeJs, ExpressJS, MongoDB*** ***(Dec '24)***:
  - Developed **CodeSphere**, a Coding platform featuring an online code editor and real-time collaboration, using React, Node.js, Express.js, and MongoDB.
  - Implemented a **versatile code editor** and compiler supporting **C, C++, Python, JavaScript, and Java** enhancing the platform's functionality.
  - Integrated **real-time collaboration** and **user authentication** features, fostering a secure and interactive learning environment.
  - Achieved a **60% improvement in user learning productivity** through the development of CodeSphere.
- **Network Anomoaly Detection** | ***Python, Machine Learning (XGBoost with Grid Search and Random Search)*** ***(Dec '23)***:
  - Implemented **Machine Learning Algorithms** for anomaly detection, achieving **97% accuracy** by training the model on the **CICIDS 2018** dataset and balancing it using **XGBoost Classifier**.
  - Optimized model performance using **Grid Search and Random Search** for hyperparameter tuning.
  - Achieved improved accuracy in detecting various types of network attacks.

Achievements

- C (Intermediate) Certificate: **Sep'20**
- Introduction to Data Science in Python: **Sep'20**