# RISHABH DWIVEDI

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## PROFILE

Data Science enthusiast with a passion for delivering valuable insights through analytical functions and data-driven decision-making. Committed to leveraging predictive modelling and advanced analytics to drive strategic growth. Proven ability to analyze complex datasets and provide actionable recommendations. Seeking opportunities in Programming, Data Science, and Machine Learning.

## EDUCATION

- **Bachelor of Technology in Artificial Intelligence and Data Science** 2021-2025
  Guru Gobind Singh Indraprastha University, New Delhi
  Coursework in Artificial Intelligence, Machine Learning, Data Science, Algorithms
  CGPA- Above 8.5
  SGPA- Above 9.0 (Recent)

## SKILLS

**Programming Languages**: Python, C/C++, SQL, CUDA
**Technologies & Tools:** AI/ML, Data Structures & Algorithms, Data Science, Data Analytics, Database Management, MySQL, PowerBI, Cuda, Linux
**Soft Skills:** Teamwork, Effective Communication, Problem solving, Analytical and Critical Thinking, Willingness to learn, Creativity, Flexible

## PROJECTS

1. **Developed a GAN model for hair color recognition and transformation:** Designed and trained a Generative Adversarial Network (GAN) from scratch to recognize black/blonde hair and modify it accordingly. Implemented the model without transfer learning, ensuring full control over architecture and optimization. Achieved high accuracy in color transformation using PyTorch and custom dataset preprocessing.
2. **Built a model for attribute arithmetic-based facial transformations:** Developed a model from scratch that performs attribute arithmetic on facial encodings, enabling transformations like male ↔ female, with glasses ↔ without glasses. Utilized vector arithmetic on latent space encodings to manipulate and modify facial attributes while preserving natural features. Trained the model on a carefully curated dataset, leveraging deep learning techniques and representation learning.
3. **Sentiment Analysis with Deep Learning using BERT:** Developed a sentiment analysis system using BERT for text embeddings and TensorFlow for model training. Utilized NLTK for text preprocessing, Pandas for data handling, and Matplotlib for visualization. The objective was , improving performance compared to traditional methods by leveraging deep learning and contextual understanding.
4. **CUDA IMAGE KERENLS**: Developed a suite of GPU-accelerated image processing kernels including **grayscale conversion**, **Gaussian blur**, and **Sobel edge detection**, leveraging **CUDA C/C++**. Applied **tiling**, **shared memory**, and **memory coalescing** techniques to optimize performance and reduce global memory access. Achieved significant speedups over CPU implementations, demonstrating strong understanding of **parallel programming**, **GPU architecture**, and **performance tuning**.

## COURSES AND CERTIFICATIONS

- AI Analyst | IBM
- Machine Learning Specialization – Andrew Ng | DeepLearning.AI
- PyTorch for Deep Learning – Andrei Neagoie | ZeroToMastery.io

## OTHER ACHIEVEMENTS

- **Leadership & Mentorship:** Led multiple group projects while mentoring juniors in AI & Data Science concepts. Spearheaded strategic initiatives to optimize project workflows, significantly reducing completion time. Built strong relationships with peers and faculty, ensuring smooth academic and project execution.
- **Hackathon:** Smart India Hackathon (SIH) 2023 by Government of India