

# Ayush Ranjan

[Ayush Ranjan - Portfolio](#)

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Github - [Ayush Ranjan | github.com](#)

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## EDUCATION

### Bachelor of Technology in Computer Science and Engineering

Graphic Era Deemed to be University • Dehradun, Uttarakhand • 2025

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## PROJECTS

### TaxiX (End-to-End Cloud-integrated Taxi's data analysis solution)

View Project : [TaxiX | Github](#)

- Cloud-Integrated Taxi Data Analysis: Orchestrated comprehensive analysis using Google Cloud Storage, Python, and BigQuery.
- Efficient Transformation: Employed Python and "Ma" pipeline to transform data for meaningful analysis.
- In-Depth Insights: Analyzed data, extracting trends like payment patterns and average tips.
- Interactive Dashboard: Designed Uber-themed dashboard with Local Studio, including rate code filtering.
- Secure Integration: Enabled secure UI and BigQuery access, prioritizing usability and data security.

Achievements: Contributed insights driving informed decisions through streamlined cloud-powered analysis of Taxi dataset.

### StockX (Stock market data processing engine with Kafka and AWS)

View Project : [StockX | Github](#)

- Kafka Expertise: Acquired understanding of Kafka's core components: producers, brokers, consumers, and Zookeeper.
- Real-Time Processing: Demonstrated stream processing proficiency, performing continual calculations on live stock market data.
- AWS Integration: Showcased AWS skills by utilizing Amazon S3 for efficient storage and Amazon Athena for data analysis.
- Hands-On Execution: Implemented Kafka infrastructure, developed data producers, and set up consumers for practical application.
- Problem-Solving: Honed troubleshooting abilities through independent resolution of data engineering challenges.

Achievements: Successfully created a functional stock market data processing engine, contributing to a deeper grasp of data engineering principles and real-time analytics.

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## ACHIEVEMENTS

### Research Paper

#### 1. Vehicle Collision Avoidance System During Lane Change Using Internet of Things

View Paper : <https://ieeexplore.ieee.org/document/10053502>

- Proposed a system that integrates GPS, GSM, IoT, Raspberry Pi camera, and Arduino for real-time data sharing and analysis.
- Detects collision risks, alerting drivers through frame-by-frame video analysis.
- Showcases the potential of emerging technologies in enhancing vehicular safety.

#### 2. Artificial Intelligence Enabled Emergency Green Corridor Mechanism for Ambulance Service in Smart City

View Paper : <https://ieeexplore.ieee.org/abstract/document/10420235>

- Devised a smart solution for handling urban congestion, especially critical for emergency healthcare and organ transport.
- Introduced a modern approach using GPS and RFID tags to swiftly transport organs, enhancing life-saving surgeries.
- Streamlined patient care and organ delivery, saving lives by reducing delays and ensuring timely medical assistance.

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## CERTIFICATIONS

GCP : [Cloud Skills Boost | Ayush Ranjan](#)

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## SKILLS

Tools and Software : GCP, Jenkins, Maven, Amazon EC2, Virtualization, Kubernetes, Linux

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