Harshal Bansal

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University Education

Punjab Engineering College (PEC), Chandigarh   **August 2023 - May 2027**
B.Tech in Computer Science (Artificial Intelligence)   CGPA: 8.2/10

- **Core Computer Science Fundamentals:** Object-Oriented Design, Data Structures & Algorithms, Algorithm Development, Math, Complexity Analysis, Operating Systems, Ruby, Scala, Software Engineering-AGILE/SCRUM methodologies, Unit and Integration testing, System Design, Computer Networks, Database Management system

- **Algorithmic Problem-Solving:** Solved 300+ competitive programming problems demonstrating strong analytical skills across LeetCode, GeeksforGeeks, CodeChef, and Codeforces

Technical Skills

- **Programming Languages:** C++, Python, JavaScript, SQL, Java, Go

- **Web Development Technologies and Frameworks:** HTML, CSS, JavaScript, React, REST API

- **Database & SQL:** Relational Database Concepts, PostgreSQL, MySQL, SQL Server, MongoDB, Redis

- **Technologies:** Apache Kafka, Spark, Docker, Git, RESTful APIs, WebSockets, Linux, PyTorch

- **Cloud & DevOps:** AWS (S3, EC2, SageMaker), CI/CD Pipelines, MLFlow

Work Experience and Previous Internships

CVENT   **Starting Jan 2026**
Data Engineer Intern   Gurgaon, India

- Upcoming internship role focused on quickly learning new data engineering technologies, solving complex analytical problems in fast-paced environment

Tick2Trade   **Aug 2024 - Oct 2024**
Technical Intern   Remote

- Demonstrated **rapid technology adoption** by self-learning advanced C++ concepts and implementing **high-performance market data processing system** achieving sub-millisecond latency through innovative problem-solving

- Applied **strong analytical skills** to architect concurrent WebSocket feed handlers processing 100K+ messages/second, effectively communicating technical challenges and optimization solutions to team

- Exhibited **self-motivation and abstract thinking** by independently building comprehensive latency monitoring dashboard, navigating ambiguous performance requirements

Trubeca Lifesciences Private Limited   **May 2025 - July 2025**
Software Engineer Intern   Chandigarh, India

- Showcased **quick learning ability** by mastering Python automation frameworks and developing real-time lead capture system with millisecond response times

- Applied **problem-solving skills** in fast-paced environment, building scalable monitoring bot that increased lead conversion efficiency by 40%

Projects

Real-Time Money Laundering Detection System | GitHub   **Apache Kafka, PySpark, AWS**
- Developed **production-grade software system** processing **2M+ real-time transactions** with **86% fraud detection accuracy** using XGBoost and SMOTE for class imbalance handling
- Built **scalable microservices architecture** using Apache Kafka, Airflow, and PySpark with Redis, Celery and PostgreSQL and Docker Compose
- Automated data preprocessing pipelines and feature engineering for temporal pattern analysis

Multimodal Video Analysis Platform | GitHub   **PyTorch, AWS SageMaker, BERT**
- Architected **full-stack software solution** integrating BERT NLP, CNN video processing, and audio analysis using **PyTorch** with fusion layers and transfer learning, demonstrating strong problem-solving in ambiguous multimodal domain
- Developed **production deployment pipeline** on **AWS SageMaker with Docker, IAM, S3 bucket** and tensorboard to visualize metrics, showcasing ability to quickly learn cloud technologies

Compliance Document RAG Processing System | GitHub   **HTML, CSS, JavaScript, React**
- Developed comprehensive **web application using HTML, CSS, JavaScript** frontend with **React framework**, implementing responsive UI design and interactive document comparison features
- Built **production-ready system** with FastAPI backend and React frontend, demonstrating full-stack web development proficiency and ability to communicate complex technical solutions
- Implemented scalable document processing with vector databases, showcasing strong analytical skills in handling undefined similarity search problems

Achievements & Leadership

- **Goldman Sachs India Hackathon Finalist** - Demonstrated exceptional problem-solving skills Ruby, Scala, securing 4th position out of 10,000+ participants through complex algorithmic solutions including barcode decoding and bit manipulation
- **Flipkart Grid 7.0 Semi-Finalist** - Showcased analytical thinking and quick learning ability advancing to semi-finals in premier engineering competition
- **redBus Data Decode Hackathon 2025** - Achieved Top 1% ranking (82nd out of 8,800+ participants) demonstrating strong problem-solving in fast-paced competitive environment
- **Prime Minister's Scholarship Scheme (PMSS) Awardee** - Recognized for academic excellence