

Ayush Agarwal

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Education

IIT BHU Varanasi - BTech in Electronics Engineering (ECE) (CGPA = 9.04) 2020 – 2024

Experience

DATA SCIENTIST AT INFO EDGE (NAUKRI) - May 2024 – Jan 2025

- **Reels Notification pipeline** - Constructed ETL Pipelines for Data Engineering to deliver notifications to **6,00,000+ users** achieving **5x DAU** (Daily avg Users) on Naukri reels. Integrated data from multiple AWS and Mongo DBs, translating complex business logic into code computing dynamically computed user pool.
- **News Recommender System** - Developed **Real Time Recommender System** for Naukri Techninis, a news platform similar to Inshorts, delivering personalized content to **40,000+ users** with response time **<150ms**, using Approximate Nearest Neighbors (ANN) based techniques like HNSW.
- **Notification Generation using GenAI** - Used **Prompt Engineering** over **Llama** (8B) to automate notification content generation, leveraging video data (title, transcription(using Whisper AI)). Designed **guardrails**(profanity checks, length check etc) to ensure quality content, processing 400+ videos with zero manual effort.
- **Other Projects** - Metrics Mailer and Dashboard, Meme Scrapper, Sallie (Sales Intelligence AI), Reels Recommender System

ASIC DESIGN (HARDWARE ENGINEERING) INTERN AT NVIDIA - May 2023 – July 2023

- **Tools:** Perforce (Version Control System), Unix, gVim, Verdi (ASIC File Management), JasperGold, System Verilog
- **SFV SLCG deployment** - **Deployed, Executed and Documented** "SLCG SFV" workflow over **3** submodules in USB IP to root out clock gating bugs. Discovered and **debugged 1** critical RTL bug in the chip.
- **Netlist Linting over USB IP** - Performed **Rule Based Data Analytics** over **8000** Netlist Linter outputs thus assuring **best quality practices** in Netlist. Using this Data analytics, **optimized Design** via RTL Coding to enhance Clock Tree structure.

Honours and achievements

- **SPECIAL MENTION - GYMKHANA AWARD:** Among **top 20 students across IIT BHU** in technical proficiency
- **2ND POSITION IN RECOGNIZANCE PRASTUTI IIT BHU :** Machine Learning Event. (Made U-Nets)
- **3rd POSITION IN CASSANDRA UDYAM IIT BHU :** Data Science Event (Invoice payment duration prediction model)
- **6th POSITION IN IDEEAVOLT ,IIT ROORKEE :** Idea Pitching Competition.(Made Innovative Electronic Door) ([Link](#))
- **COMPLETED MLWare TECHNEX'22 :** Computer Vision event (Made Stained Cell Counter) ([Link](#))
- **Hobbies :** Guitar, Photography, Dance, Reading, Travelling

Project - Credit Card Fraud Detection -

- **Exposure:** Logistic Regression, SVM, KNN, Financial Data Analysis, Data Science, Risk Analytics ([Link](#))
- Conducted Exploratory Data Analytics (EDA), **Data Visualization** and processing over highly imbalanced dataset.
- Utilized Machine Learning (ML) algorithms such as **KNN, Logistic Regression and SVM** achieving classification recall - 94%.
- Evaluated and compared model performances on the basis of **F1 Scores, Confusion Matrix and ROC Curve**.

Skills and Technologies

Skills: Recommender Systems (Information Extraction), Data engineering, Generative AI (GenAI), Prompt Engineering, Data Science, Machine Learning (Deep Learning, Computer Vision), Electronics, Robotics, Software (SDE), Product Management
Technologies: Python, Mongo DB, Kafka, Aerospike, Flask APIs, SQL, Cron, Git, Confluence, Kubernetes, Jenkins, Postman, Unicorn, Requests, BeautifulSoup, C++ , Tensorflow, Pandas, Numpy, Scikit Learn, Matplotlib, Seaborn, Excel, Power BI

Position of Responsibility (POR) - Digisim Coordinator - Udyam 22 (ECE Dept Fest)

- **Skills Demonstrated:** Time Management, Communication Skills, Mentorship, Innovation, Leadership.
- **Spearheaded** the Digisim event, overseeing end-to-end execution, including workshops and problem statements. Conducted hands-on sessions for **50+ juniors**, mentoring them in PCB design and fostering a culture of backend VLSI.
- Designed **innovative** real-life digital electronics problems and organized a final challenge and **ensured seamless event execution** through strong **leadership and mentorship**.