

# SURYANSH DUBEY | 22MT30030



# B.Tech.(Hons.) in METALLURGICAL AND MATERIALS ENGINEERING and M.Tech. in METALLURGICAL AND MATERIALS ENGINEERING

| EDUCATION |                       |                            |            |
|-----------|-----------------------|----------------------------|------------|
| Year      | Degree/Exam           | Institute                  | CGPA/Marks |
| 2027      | M.TECH Dual Degree 5Y | IIT Kharagpur              | 7.95 / 10  |
| 2022      | AISSCE (CBSE XII)     | D.A.V. Public School, Kota | 95.6%      |
| 2020      | AISSCE (CBSE X)       | D.A.V. Public School, Kota | 96.4%      |

#### **PROJECTS**

# Prompt2Anim | Al-Powered Animation Generation System | Self Project

May'25 - Jun'25

Built ML-powered system converting prompts to Manim animations using GPT-4, RAG, FastAPI, React, S3-compatible storage, Docker

- Developed modular TypeScript frontend, FastAPI backend, reducing animation creation time by 90% via prompt-to-code automation
- Implemented RAG using FAISS and LangChain, improving GPT-4 Manim generation accuracy by 42% through context injection
- Secured runtime using Python AST parsing and Docker containers to block arbitrary code execution and sandbox script runs
- Built scalable infra with S3-compatible storage and job queuing, enabling parallel animations and boosting system throughput by 65%

# HR - Employee Sentiment Chatbot | Deloitte Challenge | Open-Soft 25, IIT KGP

Mar'25 - Apr'25

- Built backend & database for a conversational AI system that analyzes employee well-being and flags HR risks using NLP-driven insights
- Developed FastAPI backend to process 9 employee data streams, integrated DistilBERT classifier (86% accuracy) for sentiment analysis
   Integrated MiniLM + FAISS for semantic retrieval, with GPT-4 contradiction detection and real-time voice input via Deepgram APIs
- Automated report generation (OpenAI + AWS S3), cutting manual HR analysis time by 60% and improving documentation workflows

# Smart Movie Streaming Platform | Self Project

Feb'25 - Mar'25

A full-stack movie streaming platform with intelligent multimodal search, advanced filtering, and secure subscription-based video playback

- Built a MERN platform with advanced search filters (language, genre, title, plot, cast) using MongoDB fuzzy and semantic search
- Integrated MiniLM-L6-v2 for contextual movie search and OpenAl Vision API to enable image-based movie recommendations
- Engineered a responsive video player (Video.js) and multi-tier subscriptions using Razorpay payments and JWT for session handling

#### **INTERNSHIPS**

#### Skill Master Games | Backend & Analytics Intern | Remote, Bengaluru

May'25 -Jul'25

Assisted in building backend analytics & tournament logic for Android-based real-money games using FastAPI, MongoDB, & internal APIs

- Assisted in implementing FastAPI endpoints for score submission, match status, and logging player events like retries and rage quits
- Reviewed FastAPI tournament code, added structured logging with logging module, and wrote Pytest cases for key match endpoints
  Built MongoDB queries to analyze DAU, match counts, and payout trends; contributed to internal dashboard for tracking player activity

# University of Cambridge | Research Associate | UK

Nov'24 - Feb'25

Analyzed and engineered data pipelines for India's SME Landscape using PLFS, ASUSE & Census Data Guide: Prof. Jaideep Prabhu

- Built modular Pandas/NumPy pipelines to parse 1M+ PLFS/ASUSE records across 6 years and 20+ variables for labor segmentation
- Applied post-stratification weighting and modeled rural-urban trends, hiring thresholds using Statsmodels, Seaborn, and NIC codes
- Engineered formalization metrics (contracts, leave, benefits) & visualized time-series indicators using Matplotlib and Jupyter notebooks

# **AWARDS AND ACHIEVEMENTS**

- Ranked in Top 10% (1085/11,000+) in Codeforces Round 1024, showcasing strong algorithmic & problem-solving capabilities
- Secured a Top 0.2% AIR in JEE Mains Physics (2022) out of 12 Lakh+ candidates; qualified JEE Advanced with 96+ percentile (Top 4%)
- Achieved 1st State and 7th nationally in International olympiad of Science, recognized with cash awards and academic scholarships

#### **SKILLS AND EXPERTISE**

Languages & Tools: C | C++ | \*Python | \*TypeScript | JavaScript | HTML | CSS | SQL | Git | \*Docker | VS Code | Jupyter | Vercel Libraries & Frameworks: FastAPI | React.js | Node.js | Express | Redux | \*Redis | \*LangChain | FAISS | Zod | Bcrypt | MongoDB Concepts & Systems: REST APIs | JWT Auth | Prompt Engineering | \*RAG Pipeline | S3 Storage | Webhooks | Pytest \*(Familiar)

#### **COURSEWORK INFORMATION**

Programming and Data Structures\* | Introduction to Machine Learning (NPTEL) | Probability and Statistics | Numerical & Complex Analysis | Advanced Calculus | Transform Calculus | Linear Algebra | Computer Applications for Materials\* | Economics \*(Lab + Theory)

# **POSITIONS OF RESPONSIBILITY**

#### Associate Manager | Public Relations, Competitions & Associations | Entrepreneurship Cell

Dec'22 - Jul'24

- Led 70+ team to publicize GES 2024 across 250+ colleges PAN India, driving 3000+ participants via strategic multi-channel outreach
- Executed India's largest B-Model competition, Empresario'24, engaging **3500+** startups with **1 Cr+** prize pool and multi-phase evaluation
- Facilitated **60+ VC** and ecosystem partnerships, offering **\$2.5M+** in startup services & **funding support** to shortlisted ventures
- Scaled "Connecting the Dots" initiative, mentoring 20+ E-Cells to foster collaboration, resource sharing, and ecosystem-wide growth

# EXTRA CURRICULAR ACTIVITIES

- Entrepreneurship: Founded FarmShuddh to uplift 10+ dairy families by branding rural ghee into high-value urban-facing products
- Football: Captained school team for 3 years; led district championship winners in 2020 and secured 2nd place in DAV Zonal Tournament
- Volunteering: Led OM Foundation drives in Jaipur, distributing essentials to 300+ families and initiating education circles to underserved
- Socult: Best Performer (200+ participants) in Hip-Hop at Rajasthan Patrika Camp; contributed to Hall Illumination team at IIT Kharagpur