Ankita Singh

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EDUCATION

Indian Institute of Technology (ISM)   Dhanbad, Jharkhand
Master of Science in Mathematics and Computing   *Aug. 2022 - May 2024*
CGPA: 3.3/4.0 (4-point scale)

Patna Women's College   Patna, Bihar
Bachelor of Science in Mathematics (Hons.)   *Apr. 2019 - Apr. 2022*
CGPA: 3.9/4.0 (4-point scale)

TECHNICAL SKILLS

Languages: Python (PyTorch, NumPy, Pandas, Transformers, JAX), C++, CUDA, SQL
AI Frameworks & Tools: HuggingFace, LangChain, AutoGPT, RAG, MLflow, TensorFlow, Streamlit, Scikit-learn
Cloud & Infrastructure: AWS, GCP, Docker, Kubernetes, PostgreSQL, SQLite
Machine Learning: Large Language Models, Transformer Architectures, Model Fine-tuning, Distillation, RLHF, Supervised/Unsupervised Learning, Natural Language Processing, Semantic Analysis, Agent-based Learning
Research Areas: Generative AI, Multi-modal Models, Agent-based Systems, Knowledge Retrieval, Time-Series Analysis
MLOps & Analytics: Experiment Tracking, Model Monitoring, Distributed Training, Resource Optimization, Pipeline Automation, Data Visualization (Tableau, Matplotlib), Data Mapping, Data Processing
Data Engineering: Pre-training Dataset Creation, Statistical Analysis, Probability, Inferential Statistics
Blockchain: Cryptography, Decentralized Finance (DeFi), Blockchain Fundamentals, Distributed Systems

EXPERIENCE

Networth Corp   Oct. 2024 – Present
Data Scientist, Internship (Bangalore, Karnataka, India)
- Developed Python chunking module for document processing, reducing token usage by 40% and improving document retrieval speed by 35% across 100+ markdown documents.

Infinite Analytics   Apr. 2024 – Sep. 2024
Data Scientist, Internship (Mumbai, Maharashtra, India)
- Evaluated campaign metadata, identified KPIs, and refined strategies, enhancing campaign efficiency by 21% and decreasing costs by 9%. Also, Collaborated with clients to deliver actionable data-driven insights.

Indian Institute of Technology (ISM)   Jan. 2024 – Mar. 2024
Research Analyst, Internship (Dhanbad, Jharkhand, India)
- Pioneered a Graph Neural Networks-based system for human yoga posture detection, achieving an 18% improvement in recognition accuracy and a 12% decrease in false positive rates.

PROJECTS

E-Commerce RAG Chatbot | *Machine Learning, NLP*   Dec. 2024 – Jan. 2025
- Designed a Retrieval-Augmented Generation (RAG) based chatbot system for e-commerce platforms, enabling semantic product search and efficient order management.
- Integrated conversational interfaces to handle order queries and provide a seamless user experience.

ML Zero-Knowledge Proof System | *Python, Cryptography, ZKP*   Nov. 2024 – Dec. 2024
- Engineered a privacy-preserving system combining zero-knowledge proofs and machine learning, implementing autonomous verification protocols for model performance with cryptographic commitments and digital signatures.

Ingredient Weight Estimation Model | *Machine Learning, NLP, Python*   Jun. 2024 – Jul. 2024
- Developed ML model using Random Forest regression to estimate ingredient weight percentages in food items, leveraging NLP for ingredient description analysis.

ACHIEVEMENTS

- Selected as a member of the Mathematics Training and Talent Search (MTTS) Programme in 2021.
- Secured All India Rank (AIR) 535 in IIT JAM 2022.

RELEVANT COURSEWORK

- **Courses:** Data Structures and Algorithms, Database Management System, Data Analytics, Design and Analysis of Algorithms, Data Mining, Probability and Statistics, Inferential Statistics, Distributed System.
- **Online Certifications:** Machine Learning Specialization, Coursera ↗ ; CS120: Bitcoin for Developers, Saylor Academy ↗ , Credential ID 7391432686AS; Cryptography I, Stanford University ↗ ; Decentralized Applications (Dapps), Coursera ↗ ; Blockchain Basics, Coursera ↗ ; Smart Contracts, Coursera ↗ .