YASH BHARDWAJ

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EDUCATION

École Polytechnique *Sept 2025 – Present*
Masters of Science and Technology in Trustworthy and Responsible AI *Paris, France*
Courses(MS): Machine Learning, Deep Learning, Computer Vision, Collaborative Learning, Optimization for AI, Reinforcement Learning

Birla Institute of Technology And Science (BITS), Pilani *Aug 2017 – Aug 2021*
Bachelors of Engineering in Computer Science *Pilani, India*

SELECTED PUBLICATIONS

- VideoConviction: A Multimodal Benchmark for Human Conviction and Stock Market Recommendations
  Oral Presentation @ Datasets and Benchmarks Track, KDD 2025 **[KDD'25]**
- FinCap: Topic-Aligned Captions for Short-Form Financial YouTube Videos
  Poster Presentation @ Short Video Understanding Workshop, ICCV 2025. **[ICCV'25]**

WORK EXPERIENCE

Georgia Institute of Technology | Research Intern Atlanta, Georgia | May 2024 – Sep 2025

- **VideoConviction:** Built a multimodal benchmark (288 videos, 6K+ annotations, 457 h) to study conviction cues in financial advice, benchmarking transformer-based MLLMs (Gemini 2.5, GPT-4o, Qwen 2.5).
- **FinCap**: Developed a short-form financial video captioning benchmark (624 clips, 7 modality setups, 5 tasks), benchmarking modality fusion strategies for recommendation, visual features, sentiment, and entity extraction.

Urban Company | Software Developer 2 (Promoted in 2023) Bangalore, India | Aug 2021 – Mar 2025

- **Product Catalog Cache:** Designed a distributed cache datastore for 27K products across 5 countries using Kafka, Redis, and MongoDB; reduced service latency by 40% and supported recommendation pipelines.
- **Dynamic Pricing Framework:** Deployed SARIMA + XGBoost–based time-series models for adaptive pricing by demand and region, improving revenue by 4% on $80M+ transactions.

IIIT Delhi | Research Intern New Delhi, India | Jan 2021 – June 2021

- **Author Profiling:** Modeled authorship patterns in scientific publications using GNNs (GNN-XML) and AnnexML (KNN) on the S2ORC corpus (600K papers, 160K authors), achieving P@1: 23%, P@3: 15%.

Bridge Your Network | Software Engineering Intern Dublin, Ireland | Jan 2021 – June 2021

- **App Development:** Built React interfaces and Ruby on Rails APIs for a networking platform (40M+ users), enhancing profile features and backend reliability.

SELECTED PROJECTS

- **Multimodal RAG:** Building a vision-based RAG system for scientific papers using PaliGemma2-3B with equation-aware retrieval to improve accuracy on math-heavy queries over traditional OCR baselines. *(Present)*
- **Emotional Scene Generation:** Fine-tuned Stable Diffusion v1.5 for emotion-conditioned generation on a dataset of 100K images and 8 emotion classes leveraging LoRA (0.4% trainable params, 15x faster, 80% memory reduction).
- **Multimodal Emotion Recognition:** Built a real-time pipeline (OpenCV + DeepFace + Whisper + PyTorch) that fuses facial, speech-tone, and text-sentiment modalities for live emotion inference.

KEY ACCOMPLISHMENTS AND EXPERIENCES

- **Charpak Masters Scholarship:** 56 selected / 2500+ applicants – French Ministry of Europe & Foreign Affairs.
- **Competitive Programming:** World rank 4 and 6 in codechef long challenge Sept'22, Oct'22 (10K participants).

SKILLS

Programming Languages	Python, C++, Javascript, C
Frameworks/Libraries	PyTorch, TensorFlow, Hugging Face, scikit-learn, NumPy, Pandas
AI/ML Areas	Multimodal Learning, LLMs, VLMs, Transformers, Diffusion Models, NLP, RAG
Tools	Git, Docker, Snowflake, MySQL, Kafka, Redis, MongoDB, AWS