

Angad Ahuja

github.com/AngadSingh22
angadsingh22.github.io

Email: angad.ahuja_ug2023@ashoka.edu.in

Mobile: +91 9896866733

EDUCATION

- **Ashoka University** Sonipat, Haryana, India
B.Sc. Computer Science & Mathematics 2023 – 2028

RESEARCH EXPERIENCE

- **Centre for Constrained Image Generation** Columbus, Ohio, USA
Post-Generation Team Oct 2025 – Present
 - **Paper reproduction and baseline comparison:** Implemented 2 RL-based halftoning papers and 6 additional baselines, which let us compare architectures, run ablations, and track failure modes close to training pipelines.
 - **Custom architecture design:** Designed RobustSep as a PPP-conditioned RGB-to-CMYK pipeline with proposer, surrogate, and refiner modules for robustness under process drift and tighter control over model internals.
 - **Evaluation under deployment constraints:** Set up evaluation workflows around fidelity, latency, and throughput to choose architectures under deployment constraints.
- **Science of Sadharan with Prakash Labs (Stanford)** India
Research Lead, M&E Vertical Jul 2024 – Oct 2025
 - **Multilingual NLP pipelines:** Turned multilingual field feedback into structured text representations through custom tokenization, Hindi/English normalization, and fine-tuned Transformer text encoders.
 - **Corpus collection and analysis:** Set up a Python/Twilio/Firebase pipeline that collected feedback from 2000+ students and supported corpus analysis.
- **KCDH-IITB (Koita Centre for Digital Health)** Mumbai, India
Research Intern October 2023 – Jul 2024
 - **Transformer-based text modeling:** Developed DetectMH, an auditable mental-health support system with fine-tuned text encoders, calibrated multi-label risk scoring, leakage-aware sanitization, abstention, and evidence tracing for triage.

SELECTED PAPERS & PROJECTS

- **Adversarial Latent-State Training for Robust Policies:** Single-author arXiv paper on adversarial latent-state robustness, backed by a C-based Battleship benchmark, masked PPO, and ablations over latent-distribution shift.
- **Universal Deepfake Detection under Distribution Shift:** First-author manuscript on deepfake detection under distribution shift through MobileNetV3, teacher-student distillation, and structured fake, OOD, and reliability score fields; initialized at IISc Bangalore under the Edge AI Winter School.
- **Colour Preservation in Diffusion Sampling:** Coauthored arXiv paper on inference-time color control for Stable Diffusion inpainting through ROI-constrained losses.
- **Online-Efficient Dense Retrieval via Asymmetric Query Encoders:** Built an asymmetric PyTorch+FAISS dense retrieval benchmark by comparing full, 4-layer, and 2-layer query encoders with pooling and distillation ablations for latency-constrained retrieval.

SKILLS

- **Languages:** Python, C++, C, SQL, JavaScript
- **Frameworks:** PyTorch, TensorFlow, Hugging Face Transformers, FAISS, scikit-learn, Flask
- **Research Interests:** text encoders, representation learning, multilingual NLP, tokenization, quantization, ablations, latency benchmarking, reproducible ML systems