Arush Gumber

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EDUCATION

Bachelor of Technology in Computer Science and Artificial Intelligence Aug 2023 - May 2027
Indraprastha Institute of Information Technology, Delhi

- **Grade:** 8.8
- **Coursework:** Data Structures and Algorithms, Intelligent Systems, Linear Algebra, Money and Banking

EXPERIENCE

Events Team Member Aug 2023 - Present
Finnexia (Finance Club), Indraprastha Institute of Information Technology, Delhi

- Conducted mock stock events and taught marginal intraday square-off (MIS) trading strategies.
- Designed MIS strategies for use in mock stock simulations for learning purposes.

Events Team Member Sep 2024 - Present
Cyborg (AI/ML Club), Indraprastha Institute of Information Technology, Delhi

- Organized and participated in AI/ML-focused events and workshops at the college level.

PROJECTS

RE-DACT: Secure Data Redaction Tool PyTorch, NLP, CV

- Selected for **Smart India Hackathon (SIH) 2024 Grand Finals**.
- Built a tool to redact sensitive data in text, PDFs, images, and videos using transformer-based models.
- Implemented YOLO for image classification and Tesseract for OCR tasks.
- Developed a multi-format pipeline for secure redaction with 99%+ accuracy.

Building ResNet for CIFAR-10 Classification PyTorch, Deep Learning

- Designed and trained a ResNet for CIFAR-10 image classification.
- Improved model accuracy by optimizing layer configurations and activation functions.
- Used visualizations of intermediate layers to evaluate training results.

Marvel Angry Birds Game Java, OOP

- Developed an Angry Birds clone using libGDX, with advanced OOP principles.
- Added serialization features and diverse level mechanics with materials and birds.

PUBLICATIONS

M-SCAN: A Multistage Framework for Lumbar Spinal Canal Stenosis Grading Using Multi-View Cross Attention (In Review - ICASSP'25) Deep Learning, CV, Medical AI

- Developed and fine-tuned the proposed multistage framework, leveraging a multi-view model with a sequence-based architecture for spinal canal stenosis grading.
- Contributed to pre-training strategies, YOLO integration for image preprocessing, and model formulation to enhance feature extraction across sagittal and axial views.

- Co-authored the research paper, focusing on methodology, results analysis, and technical writing for effective communication of the framework's innovations.
- Achieved an AUROC of 0.971, demonstrating robustness across variations in image resolution, histogram distribution, and slice counts.

ACHIEVEMENTS

- Qualified for **Smart India Hackathon (SIH) 2024 Grand Finals** with RE-DACT.

TECHNICAL SKILLS

Languages
- Python, C++, Java, C

Technologies
- Deep Learning, Machine Learning, NLP, Computer Vision, Data Structures, Git, Linux

Tools/Libraries
- PyTorch, libGDX, NumPy, Pandas, Matplotlib, OpenCV, Hugging Face