Anshul Subramanian

Engineer

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Personal Profile

Results-driven Computer Science graduate with over four years of practical experience specializing in artificial intelligence and machine learning. Proven ability to create robust and elegant solutions, coupled with a strong track record of leadership in professional settings. Adept at actively applying skills to develop innovative AI-based solutions.

Education

SRM Institute of Science and Technology *NCR, India*

Bachelor in Computer Science and Engineering *June 2017 - May 2021*

- Percentage: 91.25%

Work Experience

Samsung Research and Development Institute Noida *Noida, India*

Engineer *Dec 2021 - Present*

In-House Solution Development

Individually developed a Conditional GAN (C-GAN)–based image translation network, enabling style-based image transformation with an end-to-end on-device inference time of under 4 seconds; approved for deployment in upcoming Samsung smartphones.

- Prepared a tool to convert Figma designs to Android XML layouts, currently being used internally by Samsung employees.
- Led a team of 5 engineers to develop a GAN-based lens distortion correction system, integrating multi-plane re-projection algorithms; achieved PSNR > 30, LPIPS < 0.1, Perceptual Loss < 0.08, with sub-300ms inference time for real-time performance.
- Developed an on-device solution to synthesize long exposure images from an input stream, leveraging optical flow estimation and motion-aware frame interpolation techniques for realistic motion blur effects.
- Fine-tuned and integrated a real-time facial recognition system on android smartphones; approved for integration in upcoming Samsung Flagship smartphone camera ISP.

Camera Solutions

- Played a pivotal role in integrating portrait preview and capture models within the framework layer, enabling dynamic frame blurring. Additionally, successfully addressed issues pertaining to incorrect frame dimensions and artifacts in HDR input frames.
- Innovated a cutting-edge architecture to address a challenge presented at the Mobile Development Conference, securing recognition as the top solution poised for commercial success.
- Collaborated on the development of two in-house solutions, Image Style Transfer and Natural Bokeh Gradation. Enhanced segmentation network accuracy through the implementation of an innovative loss function, designed a novel attention mechanism for Natural Bokeh Gradation, and engineered a GAN architecture for image style transfer, enabling the seamless transfer of styles between images.

Camera Application

- Optimized and rectified camera application issues, addressing over 70 cases, which encompassed bug fixes, performance enhancements, and frame consistency improvements.

Samsung Members Event

- Served as the lead presenter and demonstrator for various camera features on Samsung's flagship models, during six high-profile Samsung Members and phone launch events.

Incedo Inc. *Gurgaon, India*

Software Development Engineer *July 2021 - Nov 2021*

- Engaged with international clients to gain a deep understanding of their project requirements, ensuring project and deliverables alignment.
- Utilized Python, MySQL, and batch scripting to automate critical client processes, streamlining the previously manual tasks of extracting data from the database, executing necessary data operations, and updating the client's Excel sheets on a daily basis. This automation significantly reduced the time required, from over 2 hours to less than 2 minutes.

Patent

2022	**METHOD AND SYSTEM FOR PROCESSING ONE OR MORE IMAGES OF AN UNDER DISPLAY CAMERA ,**	*202211051020*
2024	**Method and System For Converting One Or More Images At a Low Focal Length To a Higher Focal Length,**	*Patent Pending*

Projects

GAN based Style Transfer *Noida, India*

Samsung Reseach and Development Institute - Noida *March 2025 - June 2024*

- Independently developed a Conditional GAN (C-GAN)–based network for style-conditioned image translation, targeted for deployment in upcoming Samsung smartphones.
- Curated and processed a large-scale dataset of 115,000+ image pairs across multiple visual styles to enable robust training.
- Optimized and integrated the solution for on-device inference, achieving a latency of under 4 seconds on production hardware.
- Achieved image quality comparable to state-of-the-art diffusion models, while maintaining a significantly smaller (10×) model footprint for efficient mobile deployment.

Focal Length Translation *Noida, India*

Samsung Reseach and Development Institute - Noida *June 2024 - December 2024*

- Led development of a Conditional GAN (C-GAN)–based model to perform parameter-driven facial edits simulating changes in camera focal length.
- Designed a hybrid pipeline combining C-GAN for facial region transformation and a convolutional network for consistent background translation.
- Built and annotated a custom dataset of 14,000+ facial images with varying focal distortions to train and evaluate the model.
- Achieved high-quality results with LPIPS < 0.1, Perceptual Loss < 0.08, PSNR > 30, and inference time under 300ms on-device.

Mathematical OCR using Transformers *Gurgaon, India*

Self Learning Project *Dec 2022 - Jan 2023*

- Developed a Python application to extract and convert mathematical expressions from images into textual format using a Transformer-based OCR model.
- Built and annotated a custom dataset of 1,800+ expression-image pairs; expanded to 2,400 samples using data augmentation techniques.
- Implemented a Vision Transformer (ViT) encoder to recognize and tokenize individual elements in expressions.
- Focused on parsing basic mathematical operations including addition, subtraction, multiplication, division, powers, and exponents.

Skills

Technical Skills	Python (NumPy, Pandas, skikit-learn, etc.), R, C/C++, SQL, SQLite, JAVA, HTML/CSS, PhP, PhpMyAdmin, Batch Scripting
Other Skills	Microsoft Office, Android Application Development, Research work

Certifications

Dec 2024	**Certification on Applied Deep Learning for Computer Vision and Beyond,** IIT Ropar	*No Expiration Date*
Jun 2023	**Introduction to Generative AI Learning Path,** Google	*No Expiration Date*