Rohit Das

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Education

Masters in Science (Computer Science)   *2021-2023*
National Taiwan Normal University
Specialization: Computer Vision, 3D Vision, Neural Rendering
CGPA: 3.8/4.3
Master's Thesis: 3DGANTex: 3D Face Reconstruction with StyleGAN3-based Texture Synthesis from Multi-View Images

Bachelor of Technology in Computer Science   *2014-2018*
Camellia Institute of Technology
DGPA: 6.62/10
Relevant Courses: Computer Programming, Discrete Mathematics, Computer Graphics, Artificial Intelligence

Core Skills

Programming & ML: Python, C++, PyTorch, TensorFlow, OpenCV, CUDA

Computer Vision & 3D: YOLO, DINO, NeRF, 3DDFA, FLAME, COLMAP, Open3D

Deployment & MLOps: Docker, FastAPI, ONNX, TensorRT, AWS

Professional Experience

AI Engineer (Consultant) | Ctruh   *Remote | August 2025*
- Collaborated with the CTO on virtual try-on systems for 2D human images as well as masking strategy for Indian wear.
- Suggested a pipeline for 3D cloth deformation on 2D images using Fabric estimation and DrapeNet.

AI Engineer (Consultant) | Headspace   *Remote | June 2025 - Present*
- Developed acne detection & removal pipeline for celebrity headshots using YOLO-v11, DINO-v3, ControlNet.
- Achieved **mAP 87% @ IoU=0.5**, reduced inference latency to 120ms on NVIDIA RTX4080.
- Packaged solution with **FastAPI + Docker**.

AI Engineer (Freelance) | Estilo-Al   *Remote | Aug 2024 - Oct 2024*
- Built body-part segmentation for a virtual try-on system; improved overlay consistency **(IoU +12%)** and delivered **<8s E2E** latency on consumer GPU.
- Implemented real-time rendering with **OpenCV + PyTorch**.

AI Engineer (Consultant) | Global Digital MOJO Group   *Remote | Jan 2024 - July 2024*
- Created a survey on explainable AI usage and its future implications.
- Collaborated with senior management, including managers and the president, to align AI strategies with company goals.

AI Engineer (Intern) | Bifrost AI   *Remote | Sept 2023 - Feb 2024*
- Reduced text-to-texture generation time from >2 hours → 90 seconds using **Blender + Stable Diffusion + ControlNet**.
- Integrated **ONNX/TensorRT** optimizations, enabling scalable deployment across cloud instances.

Teaching Assistant | National Taiwan Normal University   *Taipei City, Taiwan | June 2022 - Dec 2022*
- Supported Professor Mei Chen-Yeh in teaching "Artificial Neural Networks" course, guiding over 100 undergraduate students by handling assignments and problem-solving sessions over email.
- Managed the grading of homework assignments, ensuring timely feedback and providing detailed explanations to help students improve their understanding of course material.
- Organized student presentations, providing feedback on research topics related to neural networks, deep learning, and computer vision, which enhanced their academic performance and project development skills.

Automation Engineer | BAAR Technologies   *Kolkata, India | Aug 2019 - Dec 2019*
- Implemented cutting-edge automation technologies focusing on web and process automation.

Service Engineer | Mazel Infratech Technologies   *Kolkata, India | Aug 2018- Sep 2021*
- Maintenance and troubleshooting various projects

Projects (Independent Initiatives)

Judiciary RAG Project (Independent AI Project)   *June 2025 - Present*
- Designed and implemented a Retrieval-Augmented Generation (RAG) pipeline for judiciary use cases in my hometown.
- Indexed case hearing data using FAISS + embeddings trained on the Indian Constitution & central acts.
- Evaluated with **Recall@10 (80%)** and reduced average legal query resolution time by **~40%**.
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FasTEX - Fast Text to Texture Generation
- Developed an advanced pipeline for generating textures for 3D models using **Stable Diffusion** and **ControlNet**.
- The system process multi-view captures and produces refined textures through interpolation and post-processing.
- The pipeline deemed to be the fastest in the market creating texture ~**90 seconds**

3DGANTex - 3D Face Reconstruction
- Used **StyleGAN3 + 3DDFA-V2** to reconstruct 3D face models from single images with consistent multi-view textures.
- Achieved **PSNR 28.7 / SSIM 0.91** vs baselines on FFHQ dataset.

Mesh from Video
- Designed a novel method for 3D face texture estimation using 3DDFA-V3.
- The pipeline generates faces from each frame and passes it through 3DDFA to estimate the face shape.
- Explored limitations due to dependence on FLAME coefficients.

Research Experience

Master's Research   *2021-2023*
3D Face Reconstruction with texture from single 2D image
- Worked on SOTA techniques on 3D Reconstruction, 3D Vision.
- Developed a novel method for 3D face texture estimation using StyleGAN3 and 3D Dense Face Alignment (3DDFA).
- Using StyleGAN3, InterfaceGAN and 3DDFA-V2 trained on 3DMM created novel multi-view from single image of human faces.
- Generated faces maintained high consistency across multi-view

Junior Researcher | CI3D Lab   *Taipei City, Taiwan | Jan 2022 – June 2023*
- Worked closely with Professor [Tzung-Han Lin](#) to research and develop innovative 3D face modelling techniques, focusing on texture reconstruction and neural rendering using state-of-the-art AI vision models.
- Published a research poster on normal map estimation on 2D images at 3DSA 2022, contributing to the advancement of 3D vision technology.
- Assisted in organizing weekly lab meetings and presentations, fostering collaboration and knowledge sharing among research team members.

Junior Researcher | DCCV Lab   *Taipei City, Taiwan | Oct 2021 - Dec 2021*
- Conducted research under Professor [Chiou-Shann Fuh](#), focusing on 2D reconstruction of solder balls for industrial applications, specifically using Sinogram images to improve defect inspection.
- Implemented and optimized the Simultaneous Algebraic Reconstruction Technique (SART) over the traditional Filtered Back Projection (FBP) method, achieving more accurate 2D reconstructions with higher resolution and fewer artifacts.

Publications

A Survey of the Normal Map Generator of GIMP from Single Shot Human Face Image   3DSA, 2022
- The study explores the generation of near-accurate normal maps from a single image of a human face using the Flickr-Faces-High-Quality dataset and GIMP.

- The research demonstrated effective methods for producing normal maps, contributing to advancements in texture mapping technologies.

3D-GANTex: 3D Face Reconstruction with StyleGAN3-based Multi-View Images and 3DDFA based Mesh Generation
- A novel method utilizing StyleGAN and 3DMM to generate front face mesh from single 2D pose image.
- The pipeline achieved near to accurate texture from a single 2D mesh and helps in predicting unseen regions of the face.