

Work experience

NVIDIA Corporation

Senior AI Developer Technology Engineer

Development of GPU-accelerated ML applications in scientific domains, optimized for HPC clusters and datacenters

Munich, Germany

April 2024 – present

NVIDIA Corporation

Senior Systems Software Engineer

Systems Software Engineer

Applied research for algorithms and ML models in video processing, network streaming, and 3D graphics

- Preprocessing enhancements for Tegra video encoder
 - Designed a multi-threaded framework to improve the video quality or bitrate using various HW engines
- Reinforcement Learning for QoS policies in Geforce Now
 - Developed [patented algorithms](#) for bitrate control to [improve or replace](#) conventional QoS methods
- Deep Learning algorithms for video quality improvement
 - Achieved real-time upscaling of HD content for game streaming, using GAN model pruning and quantization
- Weighted Prediction for NVENC video encoder
 - Delivered BD-PSNR gains of over 1dB, driving the entire feature lifecycle from pre-silicon to post-optimization
- Camera image noise reduction
 - Developed [patented algorithms](#) for low complexity filtering, for denoising low-light mobile captures

Other activities at NVIDIA:

- NTech conference: Multiple publications and awards; SW track judge for NTech India
- Training sessions: Pune site-level workshops for ML/DL; team-level sessions for CUDA, shaders, Python, etc.
- Hiring activities: Contribution to screening test questions, hiring interviews at universities

Pune, India

October 2018 – March 2024

July 2012 – September 2018

Oneirix Engineering Labs

Software Intern

Leveraged concepts in audio processing and queuing theory, for echo cancellation and network simulation systems

Developed Linux user-space applications as well as kernel modules, using ALSA and netfilter frameworks

Pune, India

May – July 2009, May – July 2010

Education

Indian Institute of Technology Bombay

B.Tech. in Electrical Engineering

with minors in Industrial Design

Undergraduate Research Award (URA 01) for B.Tech. thesis on Parameter Estimation of Chirp Signals

Bronze medalist at the International Mathematical Olympiad 2008, held in Madrid, Spain

Mumbai, India

July 2008 – April 2012

Grade: 8.0 / 10.0

Technical skills

Programming languages and frameworks:	C/C++, Python, MATLAB, CUDA, TensorRT, ns-3, OpenCV
Python for ML, statistics, and graphing:	TensorFlow, PyTorch, NumPy, SciPy, Pandas, Matplotlib
3D rendering APIs, game engines and tools:	OpenGL, HLSL, Unreal Engine, Unity, Godot, Blender
Linux internals and subsystems:	ALSA, networking and IPC, kernel module programming
Full-stack web technologies:	Apache, MySQL, PHP, NodeJS, MongoDB, React

Other activities

- Over 2000 hours of training experience at various Mathematical Olympiad camps since 2008
- Regional Coordinator of Mathematical Olympiads for Maharashtra and Goa from 2016 to 2022
- Playing chess and music since childhood, self-trained to play the keyboard and guitar