

Prashant Sohani

< psohani@nvidia.com >

Software engineer with 12 years of experience in applied research and development of algorithms and systems

Work experience

NVIDIA Corporation

Munich, Germany

Senior AI Developer Technology Engineer

April 2024 – present

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

NVIDIA Corporation

Pune, India

Senior Systems Software Engineer

October 2018 – March 2024

Systems Software Engineer

July 2012 – September 2018

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

- **Preprocessing enhancements for Tegra encoder**
 - Designed a multi-threaded framework to improve the video quality/bitrate using various HW engines
- **Reinforcement Learning for QoS policies in Geforce Now**
 - Developed [patented algorithms](#) for bitrate/FEC 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

Oneirix Engineering Labs

Pune, India

Software Intern

May – July 2009, May – July 2010

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

Education

Indian Institute of Technology Bombay

Mumbai, India

B.Tech. in Electrical Engineering

July 2008 – April 2012

with minors in Industrial Design

Grade: 8.0 / 10.0

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

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 1500 hours of training experience at various Mathematical Olympiad camps since 2008
- Regional Coordinator of Mathematical Olympiads for Maharashtra and Goa from 2016 to 2022
- Interested in chess and music since childhood, self-trained to play the keyboard and guitar