

DIVAKAR VERMA

Experienced AI Software Engineer | Start Date - May 2023 | Optimisation & Computer Vision



divakarverma96@gmail.com



+1 (848) 437 1155



divakar-verma.com



linkedin.com/in/divakar-verma



github.com/vdivakar

SKILLS

C/C++

Python

PyTorch

CUDA

Optimization

Git

Debugging

Linux

GPU

Deep Learning

Data Structures & Algo.

EXPERIENCE

Optimisation

Computer Vision

On-device AI

Camera

Imaging

Large-scale data

Speech

Video Classification

EDUCATION

Masters in Computer Science (GPA 4.0/4.0)

Rutgers University, New Brunswick

09/2021 - 05/2023

New Jersey, US

Specialisation - Computer Vision

- Princeton University - Advanced (3D) Computer Vision

WORK EXPERIENCE (3+ YEARS)

Deep Learning Performance, Inference (Internship)

Nvidia

05/2022 - 09/2022

Santa Clara, US

Responsibilities

- Develop highly optimised codebase for deep learning model inference pipeline for MLPerf-Inference submission. Did performance analysis and kernel fusions for GPU optimization.

Skills : C++, Python, TensorRT, CUDA, GPU Performance Optimization

Senior Software engineer | Camera & Imaging team

Samsung R&D Institute Bangalore (SRI-B)

06/2018 - 12/2020

(2.3 yrs) Bangalore, India

Responsibilities & Tasks

- Overview: Developed optimised imaging solutions for smartphone cameras using Computer Vision and Deep Learning. Experienced in image processing and camera pipeline.
- AI-HDR**: Brought up Deep learning based image enhancement model in PyTorch for Samsung flagship smartphones. The model's weights were freezed and exported to Qualcomm's SNAP.
- Super-slow motion** (SSM) video capture - Proposed, tested and deployed novel algorithm for software based SSM for mid-tier smartphones; **Optimized image processing** kernels.
- Deep-Demosaicing**: Demosaicing is an initial step in the Camera Pipeline to process raw sensor data. Proposed and achieved quality with PSNR 43.2 using resnet-bottleneck DL model.

Skills : C++, Python, PyTorch, Image Processing, Camera Pipeline, On-device AI

SDE-2 (ML)

Flipkart

12/2020 - 07/2021

(0.7 yrs) Bangalore, India

Responsibilities & Tasks

- Owned C++ codebase for Speech-Decoder. Reduced latency by 2% and deployed multiple-domains support for language model. Designed time-to-live logic for memory leakage check.
- Initiated Comparative Mean Opinion Scores(CMOS) evaluation for Hindi text prompts.

Skills : C++, Python, Debugging, Design, Accuracy and Latency Optimisation

PATENT

"ELECTRONIC DEVICE AND METHOD FOR CONTROLLING ELECTRONIC DEVICE" [Link] [Novel Super Slow Motion \(SSM\) capture using software assisted trigger via motion identification maps of region of interest \(ROI\) frames. Joint inventor for project commercialization in mid-tier smartphones at SRI-B.](#)

PUBLICATION

"Deep Demosaicing Using ResNet-Bottleneck Architecture" [Link] [Deep learning model for de-mosaicing raw camera sensor data into an RGB image.](#)

- Deep learning model for de-mosaicing raw camera sensor data into an RGB image.