

Kushashwa Ravi Shrimali

SOFTWARE DEVELOPER · ML ENGINEER

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Education

International Institute of Information Technology, Naya Raipur

B.TECH IN COMPUTER SCIENCE AND TECHNOLOGY

• CGPA: 9.38/10

Naya Raipur, India

July 2016 - 2020

Industry Experience

Quansight

SOFTWARE DEVELOPER (PYTORCH - OPEN SOURCE)

- Contributing to PyTorch core code-base with the teams at Quansight and Facebook
- Projects contributed: Sparse Project, NumPy Compatibility, OpInfos for testing, Structured Kernels, PyTorch's special module
- PRs: <https://github.com/pytorch/pytorch/pulls/krshrimali>
- Tech Stack: C++, Python, CUDA, JIT, Compilers, TorchScript, NumPy, pybind11

Remote

May 2021 - Present

NVIDIA

SOFTWARE DEVELOPER INTERN (PYTORCH DEV TEAM)

- Contributed to introduce Type Promotion support for Unary Universal UFuncs in PyTorch for both CUDA and CPU devices.
- Improved test framework for universal unary functions in PyTorch. Fixed CUDA level bugs for PyTorch functions.
- Added inverse trigonometric functions to PyTorch for both CUDA and CPU devices.
- Tech Stack: C/C++, CUDA (Framework), CUDA GDB, PDB (Python Debugging), Nsight Compute, Python (for tests)

Santa Clara, USA

January 2020 - April 2020

Care.AI

APPLIED AI ENGINEER INTERN

- Optimized existing face recognition models in the pipeline for edge devices using TensorRT (C++) and created Python bindings for utility functions to optimize the code further.
- Implemented a speech recognition model using Kaldi for hand wash detector. The model was also deployed on a sample android app.
- Technical Stack: TensorRT, PyTorch, Android Studio (for PoCs), Kaldi, C/C++, Python, RabbitMQ, Amazon Kinesis.

Florida, USA

April 2020 - September 2020

Rapid Rich Object Search (ROSE) Labs, NTU Singapore

VISITING RESEARCHER (COMPUTER VISION)

- Created a sample dataset of 1M license plates using augmentation and parallel processing (to speed up the process).
- Trained custom model using YOLO and OCR-Net for license plate recognition, taking Top-5 accuracy for double license plates from 55% to 85%.

Singapore

May 2019 - July 2019

Big Vision LLC

COMPUTER VISION AND MACHINE LEARNING INTERN

- Worked on deploying Computer Vision applications for text detection in C#.
- Implemented BRISQUE method for no reference image quality assessment and wrote a detailed blog on it's working.
- Optimized facial landmark detection models: Kazemi and LBF in OpenCV for 9-points instead of 68 points.

California

March 2018 - May 2019

Skills

Frameworks

Programming Languages

Skills

PyTorch, TensorRT, OpenCV, NumPy, Spacy, Deepstream, JAX

C, C++, CUDA, Python

Unit testing, MLOps, Optimization, Software Development, DevOps

Extracurricular Activity

Technical Blog

TECHNICAL BLOG WRITER - PYTORCH, OPENCV, C++

- Received >50k views and >10k unique users from >100 countries in the world.

July 2018 - Present

PyTorch, OpenCV, BuffetCodes, Malloc(42)

OPEN SOURCE CONTRIBUTIONS

- Contributed BRISQUE NR-IQA algorithm to the quality module of OpenCV. Created BuffetCodes organization, included multiple Docker container scripts, testing, CI/CD pipelines, and a File Manager library in C++. Malloc(42) organization also includes a compiler reproduction and more. Contributed to PyTorch in testing, sparse, and special modules.