

# KUSHASHWA RAVI SHRIMALI

International Institute of Information Technology Naya Raipur



[Blogs](#)



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## Education

**International Institute of Information Technology, Naya Raipur (IIIT-NR)**

**2016 – 2020**

*B.Tech. : Computer Science and Engineering - 9.38 CGPA*

*Raipur, Chhattisgarh*

Awarded with Chairman's Gold Medal for Transformational Leadership

## Work Experience

**Research Engineer, Lightning AI**

**Feb 2022 – November 2022**

*Lead: Lightning Flash; Maintainer: PyTorch Lightning, Lightning App*

*Remote*

- Lead for Lightning Flash library, major focus on fixing hardware compatibility, API design, better engineering, fixing major bugs, and helping lead major releases.
- Maintainer for PyTorch Lightning library, major focus includes API design, and GPU and bfloat16 performance compared to PyTorch.
- Building apps built with Lightning App framework (React and Python): Code Runner App (allows to run a code editor in the app, just write the processing function, and run it on a sample image with one click). The App has integrated AST checker support, and also supports installing requirements. [App Repository Link](#)

**Software Developer (Open Source), Quansight**

**May 2021 – Feb 2022**

*Core contributor to PyTorch up-stream, specially Testing and Sparse Tensors teams*

*Remote*

- Core contributor to PyTorch core code base with the teams at Quansight and Meta (Facebook). [Link to the Pull Requests](#)
- Wrote adding a tensor generation utility for PyTorch to help users generate tensors of their choice of shape, device and type with one command. [Documentation Link](#)
- Projects contributed: Sparse Project, NumPy Compatibility, OpInfos for testing, Structured Kernels, PyTorch's special module

**Software Developer, Care AI**

**April 2020 – January 2021**

*Focused on deploying AI models at scale for thousands of hospitals across the US*

*Remote*

- Deployed a speech recognition app (end to end) on Android for Care AI device. The app keeps a record of the number of times the patient has washed his hand using Kaldi for Speech Recognition.
- Created a script to auto-generate dataset for validating driver licenses of people in the US
- Involved with transferring data from Android to Amazon AWS servers, through Amazon IOT.

**Software Developer Intern, NVIDIA**

**January 2020 – April 2020**

*Team: PyTorch GPU Development Frameworks Team*

*Santa Clara, California*

- 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 and fixed CUDA level bugs for PyTorch functions.
- Added inverse trigonometric functions to PyTorch for both CUDA and CPU devices.

## Open Source Projects/Contributions

**LPython (Compiler and Programming Language), Contributor**

**July 2022**

- Added support for yield statements in the parser
- Fixed support for "in" in for Expressions (without breaking for statements)
- Fixed parsing for list comprehensions (bison)

**C++ File Manager, Author**

**May 2020 – June 2020**

- Developed a [C++ File Manager](#) library which allows the user to walk through a directory, ignore specified extensions, with an additional output of a tree-like structure (can be used in markdowns directly). [Version 1.0 Release](#)

**Bismuth (KDE's Tiling Window Manager Extension), Contributor**

**July 2022 – Present**

- Working on porting the typescript implementation of the window manager to C++. Some of it also involves implementing from scratch to merge with the KWIN and QT libraries.
- Relevant Pull Requests: [Porting Three Column Layout](#), [Porting 'focusWindowByDirection' events](#)

**OpenCV, Contributor**

- Fixed errors for [no faces detected in facial landmark detection model](#).
- Added [BRISQUE implementation](#) (also included testing for all systems including 32-bit, 64-bit, and operating systems: Windows, MacOS).