

KUSHASHWA RAVI SHRIMALI

International Institute of Information Technology Naya Raipur

 [Blogs](#)  kushashwaravishrimali@gmail.com  [Kushashwa](#)  [krshrimali](#)

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

Technical Skills

Languages: C++, Rust, Python, Go, Lua, Java, TypeScript, HTML, CSS

Skills: Backend, Database Design, System Design, Django (Framework), Compilers, Programming Languages, System Optimization, High-Performance Computing

Work Experience

Software Engineer, Abnormal Security

December 2022 – Present

Focused on Backend

Bangalore, India


- Led integrations for multiple SaaS Platforms into the current pipeline for Security Posture Management feature launched at RSA Conference.
- Worked on enabling ingestion from external API calls and easing out pagination internally.
- Designed migration testing for old services to new and ensuring validation to call migration complete.
- Optimised Database Calls in the internal code base to avoid re-writing huge structures in the database and instead fetching at runtime when possible.
- Tech Stack: Python, Golang, PostgreSQL, Kafka, Scheduling Algorithms, Django REST API

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). 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.
- Created a script to auto-generate data-set for validating driver licenses of people in the US

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 - This work was further carried on for multiple months by multiple engineers in upstream (Meta) and downstream (NVIDIA) teams as the impact turned out to be huge.
- Fixed implementation for product function for GPU Devices (CUDA) - specifically for bfloat16 data type.
- Improved test framework for universal unary functions in PyTorch and fixed CUDA level bugs for PyTorch functions.

Projects

Context Pilot (Server - Rust, Extension - TypeScript, Lua), Author




- Binary to find top N (all for now) relevant files and authors for the given line of code/section of code/file.  [Repository Link](#)
- Implemented an in-house DB to store results for any user call to boost performance (acts as a long-living cache).
- Extension written for VSCode in TypeScript:  [VSCode Extension Link](#)
- Plugin written for NeoVim in Lua:  [NeoVim Plugin Link](#)

KeyStroke Fetcher: A producer-consumer with Password Conversion Algorithm (Rust, Kafka), Author

- Producer: Fetches keystrokes and mouse events from the users, skips irrelevant events and sends the filtered events to consumer.  [Producer Repository Link](#)
- Consumer: Receives events from the Producer and prints in human readable format from the origin (offset: 0).  [Consumer Repository Link](#)

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 \(bison\)](#)

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](#)

Image Annotator: A full-stack (cross-platform) app using Rust, Author

November 2022 - Present

- Developed using iced-rs library in Rust, to allow users to iterate through a folder and annotate each (valid) image.
- Features: Exporting results to JSON (persisted across different folders), Zoom/Pan images, file validation, add comments for incorrect image (optional)

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).