Gaurav Dhingra

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EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
Master of Science, Bachelor of Science in Applied Mathematics
2013 - 2018
GPA: 7.343/10

OPEN SOURCE

• LFortran • SymPy • Flux • scikit-learn • mpmath

LINK

Github:// **gxyd**
Web:// **gxyd.github.io**

COURSEWORK

Design & Analysis of Algorithms
Graph Theory
Data Structures
Introduction to Linux *
Linear Algebra
Discrete Mathematics
Copyright *
(* are MOOCs)

SKILLS

PROGRAMMING

Proficient:
• C++ • Python
Competent:
• Kotlin • BASH
Familiar:
• Julia • MongoDB

OPERATING SYSTEM

• Mac OS X • GNU/Linux

TOOLS & FRAMEWORK

•Vim • Git

TALKS

• Lightning Talk "Why Python is good for mathematical computation", PyDelhi 2016

EXPERIENCE

LFORTRAN CONTRACTOR | Compiler Engineer

Bangalore, India | March 2024 - Present

- Making LFortran, a modern open-source Fortran compiler built on top of LLVM, reach beta stage
- Improve array operation ASR (internal compiler representation) pass functionality
- Tech stack: C++, LLVM C++ API and LLVM IR

DIGITAL ARISTOTLE AND LATER BYJUS | Senior Research Engineer

Bangalore, India | April 2022 - Feb 2023

- Worked in a cross-functional, agile based Geogebra's team to build a student centric math solver-engine for K-12 edTech
- SDK for parsing a mathematical expression from LaTeX to mathematical tree and internal form
- Tech stack: Kotlin, Gradle, Typescript, Node.js

DIGITAL ARISTOTLE | Junior Research Engineer

Bangalore, India | June 2018 - March 2022

- Autosolver project in the Byju's BTLA app
- DSL for having step-by-step math templates
- Tech stack: Python, SymPy, Typescript, CI/CD

SYMPY | Pull Request Manager

September and December 2017, February 2018

- A position funded by NumFOCUS, to work on SymPy, a popular python library for symbolic computation with more than 13k stars on github.
- Review SymPy pull requests help in SymPy release process.

GOOGLE SUMMER OF CODE 2017 | SymPy

May - July, 2017

- Worked on extending the computations using the Risch integration algorithm.
- Implemented algorithm for parametric logarithmic derivative problem and trigonometric functions can now be integrated using the Risch algorithm.

GOOGLE SUMMER OF CODE 2016 | SymPy

April - Aug, 2016

- Created capability to do computation with Finite Groups and Finitely Presented Groups.
- Implemented coset enumeration algorithm for finitely presented groups and Reidemeister Schreier, low index subgroup algorithm for doing computation with subgroups and order of groups.