Avinal **Kumar**, B.Tech

Student, Programmer, Technical Writer, Open Source Contributor

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⌖ National Institute of Technology, Hamirpur, India

Skills

Programming

- Data Structures and Algorithms
- C/C++ (2+ years) - STL, Pointers, Templates, OOP, API development, Boost C++, Qt(basic)
- Java (1+ years) - Collection, Generic Programming, Basic Multi-threading
- Basic - SQL, MATLAB, HTML, CSS, JavaScript, Python

Automation/Scripting/Version Control

- Bash/PowerShell Scripting, Python Scripting, Google Apps Script
- Git, GitHub, GitLab, GitHub Actions

Tools/Office/Others

- OS - Linux(Ubuntu), Windows, Windows Subsystem for Linux
- Documentation - Sphinx, Pelican, reStructuredText, Markdown
- Editors/IDE - Visual Studio, Visual Studio Code, CLion, IntelliJ IDEA, Vim
- Office - Word, Powerpoint, Excel; Basic - CMake, make, Gradle

Experience

Script Winter of Code, Open Source Contributor, Rotten-Scripts   Dec20–Present
Ongoing Contest:
- Proposed new sections for PowerShell Scripts
- Proposed and working on website for the project.
- Added automatic Pull Request Assigning Action.

Google Season of Docs 2020, Technical Writer, VideoLAN   Sep–Nov 2020
Created VLC for Android User Documentation, key highlights of the project is as below:-
- Proposed a new structure for the documentation (sphinx, reStructuredText)
- Writing user-friendly and well researched content for technical and non-technical users.
- Proper amount and placement of screenshots and other media for more appealing docs.
- Optimised web-pages for major form factors and ease of navigation

Projects

Automated Coding Activity GitHub Action, Python, Docker, GitHub Actions, Bash Scripting
Automatically creates WakaTime Coding Activity graph that can be embedded in Readme(s) and websites.
- Uses WakaTime API to gather data as JSON
- This data is then processed and plotted as SVG using matplotlib

Binary Search Tree Traversal Animator, Java, Gradle, Swing, Multi-threading
Creates Binary Search Tree node by node and also draws the path taken by the traversal. Visualizes 4 traversal techniques, Inorder, Postorder, Preorder and Levelorder. Finally multi-threading is used to draw 3 of them parallely. At this point you can see all the traversal side by side and compare. This project shows the cleaver use of traversal algorithm to create a visual tree.

Astronomical Image extraction from FITS File, C++, CFITSIO, Boost C++, CMake
Flexible Image Transport System has been used for decades to store and transfer astronomical images and needs specialized software to view them. This project extract those images as JPEG or PNG that can be viewed by any common image viewer.

Open Source Contributions, GitHub, GitLab

I regularly contribute to open source. Given below are some of the major ones:-

- XEUS-SQLite - Fixed command tokenizer and found two more bugs.
- embox - Added a new command to the embox operating system.

Education

Bachelor of Technology , Computer Science and Engineering, National Institute of Technology, Hamirpur, India - 8.17
<div align="right">2018–Present</div>

Quantum Computing, IBM Quantum, The Coding School - 99.32%
<div align="right">2020-Present</div>

Intermediate , Mathematics, Physics, Chemistry, Sri Chaitanya Junior Kalasala, Hyderabad, India - 92.8%
<div align="right">2015–2017</div>

Certifications

Google IT Support Professional, Coursera
<div align="right">2020</div>

Languages

Hindi: Native proficiency

English: Professional proficiency

Others

Position of Responsibility

- **Executive Hindi Editor** - SRIJAN Institute Magazine, NIT Hamirpur
- **Executive Member** - Computer Science Engineers' Society, NIT Hamirpur

Links

- GitHub
- LinkedIn