Kartikey **Tewari**

Computer Science and Engineering Student

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Education

National Institute of Technology — *Himachal Pradesh, India*

B.Tech and M.Tech in Computer Science and Engineering (77.8%) — *August 2017 - May 2022*

- Courses: DS, Algorithms, Computer Architecture, Discrete Mathematics, Statistics, Theory of Computation, Advanced DBMS.
- Completed many courses on Udemy including Web Development Bootcamp, Arcade Game in Javascript and Introduction to Shell Scripting.

Delhi Public School, Vidyut Nagar — *Uttar Pradesh, India*

Intermediate Examination (92.8%) — *March 2015 - March 2017*

- Received Meritorious student award for securing cent-percent marks in Mathematics All-India Examination.
- Received NTSE Scholarship from Government of India, awarded to meritorious students.

Work Experience

SDE Intern, FAH — *Gurgaon, India*

Javascript, NodeJS, ExpressJS, MongoDB, MYSQL, Redis, OPENAPI-3, Docker, Git and Github — *August 2020 - September 2020*

- Developed REST APIs with focus on scalability, for user authentication and onboarding.
- Configured and deployed web services on Docker containers, using test driven development.
- Designed and documented the API on Swagger Open-API3 format.

Research Intern, NIT Hamirpur — *Himachal Pradesh, India*

C/C++, Bash, Octave Scripts and Latex — *May 2020 - July 2020*

- Designed a new tree based Data Structute and the algorithms to build it and perform queries on it.
- The tree can handle all types on range-based queries for transitive functions while providing scalable solutions.
- Exponentially, reduced Time complexity for query operations while reducing space complexity by 25% for storing data.
- Implemented the code for proposed data structure as well as contemporary methods, such as Brute Force and Segment Tree approach in C++.
- Designed a test suite to benchmark proposed algorithm with contemporary methods. Then wrote scripts to automate the process.
- Wrote a paper on the tree, and deployed the code using Git.

Personal Projects

Parallel Wavelet Tree — *Parallel Computing*

C/C++, Bash, Octave Scripts and LaTex — *August 2020*

- Programmed serial and parallel implementation of Wavelet Tree.
- Designed a test suite for benchmarking both implementations of wavelet tree. Wrote scripts to automate the process.
- Plotted the data points and explained the behaviour of generated graphs. Wrote a paper based on the findings.

Build LaTex — *Linux Utility*

Latex, Bash Script — *July 2020*

- Automated many processes involved with Latex, such as building files and installing packages.
- Also provided CLI based snippets for basic structure of general LaTeX projects.
- Wrote detailed documentation about the flags used with the script.
- Open sourced the project on Github.

Color Ninja Game — *AI-Gaming Engine*

HTML, CSS, Javascript, Bootstrap3, Git and Github — *June 2020*

- Designed an Artificial Intelligence based gaming engine in Javascript.
- Programmed a game for selecting the resultant color by mixing given value of Red, Green and Blue.
- Deployed the website on github using continuous integration and github pages.

Yelp Clone — *Web App*

HTML, CSS, Javascript, NodeJS, ExpressJS, EJS, MongoDB, PassportJS, Git, Github and Heroku — *May 2020*

- Made a clone of Yelp, as a website of reviews.
- Implemented user-authorization and back-end API, having full CRUD functionality.
- Wrote REST APIs for communication with database.
- Deployed the code on Heroku using Git, while hosting back-end on MongoDB Atlas cluster.

Achievements

- Specialist at Codeforces with Rating of 1432.
- Four stars at Codechef with Rating of 1815.
- Spotted bug in Microsoft Win10 Powertoys.
- Been an active member of college's GNU-Linux Users Group (GLUG).
- Write a blog about tech and general topics with over 4000 views, from 8 countries.
- Wrote a post about building latex on reddit, that trended on Linux based sub-reddits.