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 dynamic REST APIs with focus on scalability. The APIs can handle up to 15,000 requests/sec.
- Deployed web services on Docker containers, using test driven development with a team of 18 people.
- 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 tree-based data structure and the algorithms to generate and perform queries on it. The tree can handle all types of transitive function 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   *Paper*

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 a 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.