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DHEERAJ

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EDUCATION

Indian Institute of Technology Mandi **Himachal Pradesh, India** **Aug 2017 – Present**

- **B.Tech in Computer Science and Engineering, CGPA: 9.0**
- **Relevant Coursework:** Algorithms and Data Structures, Database Systems, Computer Organization, Probability and random processes.
- **Programming Club Coordinator of the institute** for the academic year 2019 - 2020.
- **Programming Club Sub-Coordinator of the institute** for the academic year 2018 - 2019.

WORK EXPERIENCE

Google Summer of Code Developer **The Linux Foundation** **May 2019 – Aug 2019**

- Implemented Printer Applications Framework which publishes a hardware printer as a driverless IPP Printer. This framework enables us to create printer applications for different printer driver packages like HPLIP, Foomatic and Gutenprint. My work will allow legacy printers to be used with snapped cups package.
- Created Snaps for HPLIP, Gutenprint and Foomatic printer applications and published them on snap store.

LANGUAGES AND TECHNOLOGIES

- **Programming Languages:** [C++, C, Python] (Most experience). [Java, Javascript, PHP, Bash] (Some experience).
- **IDEs and Programming Tools:** Autotools, Visual Studio Code, Sublime Text, Fish Shell, Zsh Shell.
- **Other tools / frameworks:** Git, MySQL, Django.

PROJECTS

- **Add print-scaling features:** Added new print-scaling features(crop-to-fit and fill) to cups-filters. These scaling options are a part of **Ubuntu 19.04 Disco Dingo** release.(C, C++ and cups)
- **Migrate server from Bazaar to Git:** Wrote scripts for OpenPrinting production server to use GitHub repositories instead of bazaar repositories for synchronizing printer database with foomatic database. The web server now automatically pulls any changes in the foomatic-db github package and updates the mysql server accordingly. (SQL, PHP and bash)
- **Z3 SAT and SMT Solver:** Used Z3 python package to solve Sudoku, mastermind, magic square and graph coloring problems by modeling them into a SAT problem.(Python and Z3)
- **Dataset from Wikipedia Database:** Created dataset for Concept Mining from Wikipedia Database for evaluation of Concept Mining Algorithms. In this project, every base word was assigned a unique integer and each Wikipedia article was considered as a row. (Apache Hadoop MapReduce and Java).
- **Online Quizzing Platform:** Built an online quizzing platform. The backend was designed with ACID properties in mind. The website supports two level of authorization(quiz-master and quiz-taker). (Django)
- **Contest Reminder Bot:** Designed and Implemented a web service to scrap upcoming contests from popular competitive programming websites and send reminder to users on Zulip. (Python, Celery, Zulip API and Heroku).

ACHIEVEMENTS

- **Google Kick Start 2019:** Stood 53 of 4000 participants in Google Kick Start July 2019.
- **TopCoder Algo Round 2019:** Stood 1^{st} in IIT Mandi TopCoder Algo Round 2019.
- **TopCoder Hackathon 2019:** Stood 2^{nd} in IIT Mandi TopCoder Hackathon 2019.
- **Dementia 2019:** Stood 1^{st} in Division 2 of Dementia 2019, rated contest on CodeChef.
- **Capture the Flag 2019:** Stood 1^{st} in IIT Mandi Capture the Flag 2019.
- **Dementia 2018:** Stood 8^{th} in Division 2 of Dementia 2018, rated contest on CodeChef.
- **TopCoder Algo Round 2017:** Stood 7^{th} in IIT Mandi TopCoder Algo Round 2017.
- **Kishor Vaigyanik Protsahan Yojana(KVPY) Scholar 2015**