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: 9.10
- Relevant Coursework: Algorithms and Data Structures, Database Systems, Computer Organization, Probability and random processes, Communicating Distributed Processes, Compiler Design and Pattern Recognition.

WORK EXPERIENCE

Software Developer Intern

CodeNation

April 2020 - June 2020

- Implemented new finders and fixers to support discovery and automatic fixing of 11 Cloud Anti patterns for the various AWS Resources including EC2, EBS, ELB, RDS, SQS, Lambda Function, DynamoDB, ElastiCache and SageMaker.
- Improved the CloudFix platform by implementing Issue Verification, Resource Backup Mechanism and Resource Centric UI/UX.

Google Summer of Code Developer

The Linux Foundation

May 2019 - August 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 Snap for HPLIP printer application and published it on snap store. Work on Foomatic and Gutenprint printer applications is under progress. Project Link

LANGUAGES AND TECHNOLOGIES

- **Programming Languages:** [C++, C, Python] (Most experience). [Scheme,Prolog,C#, Javascript, PHP, Bash, Java] (Some experience).
- Other tools / frameworks: AWS, K8s, Django, Git, MySQL.

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) Project Link
- 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) Project Link
- **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. *Mastermind solver:* Used Selenium python package to interact with online Mastermind platform and solve it using Z3.(Python, Selenium and Z3) Project Link
- **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, Zulip API and Heroku).

POSITIONS OF RESPONSIBILITY

- GSoC Mentor at OpenPrinting for GSoC 2020.
- Programming Club Coordinator of the institute for the academic year 2019 2020.
- Teaching Assistant for Applied Databases Practicum Course for Odd Semester 2019-20.

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.
- **TopCoder Algo Round 2017:** Stood 7^{th} in IIT Mandi TopCoder Algo Round 2017.
- Kishor Vaigyanik Protsahan Yojana(KVPY) Scholar 2015