# **DHEERAJ**

(+91) 8527510168 dhirajyadav135@gmail.com

## **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, Paradigms of Programming, Communicating Distributed Processes, Compiler Design and Pattern Recognition.

#### **WORK EXPERIENCE**

# **Software Developer Intern**

## CodeNation

April 2020 - June 2020

- Implemented new finders and fixers for CloudFix platform to support discovery and automatic fixing of 11 Cloud Anti patterns for the various AWS Resources including EC2, ELB, SQS, Lambdas, DynamoDB, ElastiCache and SageMaker.
- Improved the 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. Project Link

# **LANGUAGES AND TECHNOLOGIES**

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

#### **PROJECTS**

# **Major Technical Project**

Advisor: Dr. Manas Thakur

Sept 2020 -

- Escape Analysis for OpenJ9 Java Runtime(Ongoing): Working on a modular precise and efficient inter-procedural static analysis for stack allocation including the preservation of ByteCode Indices for generating usable results.
- Work done was presented at  $4^{th}$  Workshop on Advances in Open Runtimes and Cloud Performance Technologies (AORCPT), co-located with IBM CASCON-EVOKE. Abstract Link

## **Minor 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: Migrated OpenPrinting production server from bazaar to git with automated repository and database synchronization.(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 as 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.
- 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