

HARSH AGRAWAL

3rd Year Student at University of Waterloo

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SKILLS

Languages Python, C, C++, Bash, SQL, Java, Racket, Haskell, MATLAB, R, Octave

Technologies Linux, Numpy, Scikit-learn, Keras, Git, Pandas, SQL, Android, NLP, Deep Learning, Grafana

WORK EXPERIENCE

HUAWEI Technologies Canada Co., Ltd

Winter 2021

Software Engineering Intern, Heterogeneous Compiler Lab

- Developed programs to **migrate between PostgreSQL schemas** for our SPEC CPU 2006/2017 results database.
- Designed highly customizable **User Interfaces** in a term of 4 for Grafana using PostgreSQL, which are actively used by 2 divisions for daily results.
- Tuned options using statistical analysis based on local and online data resulting in **15% improvement** in INT benchmarks and **13%** in FP benchmarks for SPEC CPU 2006.
- Developed SPEC CPU **configuration files** in a team of 3 to work along with Jenkins pipeline.

Nitiraj Engineers Ltd.

Spring 2019

Software Engineering Intern, R&D Department

- Debugged and **improved performance** of program managing employees' and client's database by 15%.
- Developed and deployed an **anomaly detection program** decreasing shipping of faulty products by a third.
- Assisted in development of **testing software** using C++ in a team of 5 to test engineered products.

PROJECTS

Noise Reduction Calling *C++, Python, Tensorflow, Keras*

- Developed a program to remove noise in **real time** by recognizing human voice based on Reinforcement Learning and DSP.
- Wrote programs to **transcribe calls** and to **search** the transcriptions using NLP.
- Building an Android App based on above technology.

Email Client *Python, IMAP, SMTP, NLP*

- Designed an email client to retrieve emails using IMAP, summarize and then send notifications in real time.
- Added functionality to generate emails/replies from keywords using NLP and send it using SMTP.
- Command Line options to control flags, labels, categories, etc. of emails.

Attendance Manager *C++, Java, Android, SQL*

- Developed software to take attendance for students in schools in C++.
- Designed an application in a team of 4 to provide the necessary UI to instructors and backup data for the school IT dept.
- Software is currently being used for attendance of **more than 10,000 students** during online learning and undergoing trial runs in **6 more schools** in Mumbai.

ACHIEVEMENTS

- **Certificate of accomplishment** for Stanford's **Algorithms course** in Coursera (**98%**).
- **Certificate of accomplishment** for Andrew Ng's **Machine Learning course** (**100%**).
- Received a **\$15,000 Scholarship** for demonstrating **passion in Computer Science**.

EDUCATION

University of Waterloo

Sep 2019 - Apr 2024 (expected)

Candidate for Bachelor of Computer Science (3A)

- Cumulative GPA: **90.32%**
- **Excellent Academic Standing** in all terms and **Term Dean's Honours List** in terms 1A, 1B, and 2A.
- Took an active part and demonstrated leadership in 'Coffee N Code' and 'Computer Science Club'.