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Shardul Bansal

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Work Experience

Software Developer Engineer — **Amazon** — **07/21 — *Present***

- Increase throughput by 50x by implementing Batch Update Instance API that allows our Control Plane to communicate with our Data Plane. This allows faster and more reliable communication, helping us meet our scaling needs of providing a 1000 TPS DiscoverInstances call.
- Create mock production environments using containers in order to improve testing capabilities of multiple services, allowing us to drastically improve our code deployment time.
- Improve and add metric emission data to allow operators to root cause high severity events quickly and efficiently

NLP Software Engineer Intern — **Dcyphr** — **06/20 — 09/20**

- Worked in Agile collaborative environment to fine-tune Facebook AI Research Sequence to Sequence model (fairseq) BART to summarise scientific papers
- Built pipeline using Python to continuously train BART model on incoming data from website (MEAN stack), first allowing me to gain familiarity with Microsoft Azure but then later building containers deployed on Google Cloud
- Performed Machine Learning DevOps role that autoscales deployed Docker containers on Google Cloud Platform

QA Data Automation Intern — **Q4 inc** *cloud-based investor relations* — **05/19 — 09/19**

- Defined and created a data-checking framework using scikit-learn, Pandas and Requests in Python that determined that up-to 5.8% of data on Q4 Desktop was incorrect
- Scoped technical requirements into solution framework that was adopted by the company to test validity and accuracy of large-scale data on 2 main products of the company, Q4 Desktop and Q4 Web

NLP Software Engineer, Co-Founder — **emotiv** *classify music through emotion* — **01/19 — 05/19**

- Developed a music categorisation service that uses Natural Language Processing and Recurrent Neural Network to classify music into emotions with an accuracy of 92%
- Utilised Python's Natural Language Toolkit to analyse song lyrics resulting in wining the Engineering Excellence Challenge at the largest student-run hackathon in Canada (UofT Hacks)

Front End Developer Intern — **Bibbit** *enable authors to gain traction* — **06/18 — 08/18**

- Created front-end framework to develop products that provide a great user experience using React.js, Node.js and Bootstrap, laying the foundation for bibbit.com

Education

Toronto, ON — **University of Toronto**
Dean's Excellence Admission Scholarship — **09/17 — 04/21**

- Honours B.Sc. in Computer Science. Coursework: Operating Systems; Databases; Algorithms; Programming Languages; Intro to Machine Learning; Intro to AI; Entrepreneurship; Calculus I and Calculus II, Computer Vision, Deep Learning

Technical Experience (Projects)

- **Open Source Contributor to Magenta** (2020): Awarded grant to do research on Generative AI Models used by artists and musicians to enable their creative processes.
- **Lead Paper Reproduction Team** (2020): Lead teams and take part in reproducing Machine Learning papers. Reproduced Recurrent Neural Networks Image Compression paper (published in 2017)
- **Winner of IBM Enterprise Design Thinking Competition** (2019): 4 month long coursework culminating in a project allowing us to compete and win in IBM competition against 35 other teams.

Leadership

- **Co-President of UofT AI** (2019 - Present)**:** Spearheaded ProjectX, undergraduate machine learning competition bringing together 120 students from the best universities in North America to solve problems in climate change. Oversaw and led startAI, largest undergraduate AI conference in the world with over 500 attendees in its first year.
- **Community Advisor, Trinity College** (2019 - 2020)**:** Build a safe, supportive and inclusive residence community