

Sagun Bajra

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Education

M.Sc. in Applied Computing, University of Toronto (UofT) Sep 2013 - Jan 2015

B.ASc. in Engineering Science, UofT Sep 2008 - Jun 2013

- Graduated with honors, with a cumulative GPA of 3.62/4

Employment Experience

Machine Learning Engineer (Paytm Labs Toronto) Jun 2016 - Present

- Designed and implemented a chatbot service to reduce the number of marketplace order related queries by over 70%.
- Improved the existing recommendation engine for Paytm's marketplace by over 50%.
- Implemented a new recommendation engine for banner personalization.
- Used Apache spark to create highly scalable and robust machine learning pipelines that serve tailored content to over 200 million users.

Research Engineer in Big Data (Kobo Toronto) Jan 2015 - Jun 2016

- Optimized content processing/ discovery for customers using various methods from machine learning and NLP.
- Improved home page layout optimization by exploring different feature spaces.
- Processed large volumes of data in real time using Apache storm to identify side loaded content.
- Implemented intelligent start/end of book detection using Hidden Markov Models.

Research Intern in Big Data (Kobo Toronto) May 2014 - Jan 2015

- Improved text based genre classification using machine learning and NLP.
- Implemented a context based home page layout optimization framework using contextual bandit schemes.
- Implemented a real time fraud detector to prevent malicious personnel from falsely boosting popularity of books.

Teaching Assistant (UofT) Jan 2014 - May 2014

- Supervised tutorials and graded assignments and exams for a first year introductory computer science course, taught primarily in Python.

Power/Performance Engineer (AMD Markham)**May 2011 - Sep 2012**

- Stress tested discrete Graphics Processing Units (dGPUs) under various thermal conditions to ensure power consumption did not exceed QA standards.
- Collaborated with multiple teams to optimize dGPU power consumption.
- Tested and implemented automation systems to acquire power data on dGPU stress tests.
- Wrote various scripts using PERL to analyze the power data.
- Wrote procedures and demonstrated stress testing procedures for hardware qualification teams to ensure power stress testing was standardized.

Jr. DEEP Instructor (UofT)**Jul 2010 - Sep 2010**

- Collaborated with colleagues to construct a curriculum to teach basic circuitry to high school students.
- Designed prototypes of various circuits and line follower robots.
- Taught high school and middle school students the basics of circuitry including the usage of sensors and actuators to make a fully autonomous robot.

Other Experience**Machine Learning Course Project****Sep 2013 - Dec 2013**

- Implemented naive Bayes, probabilistic principal component analysis, and feed forward neural networks to break gimpy CAPTCHAs.
- Achieved 84% letter recognition rate using neural networks.

Aircraft Design Course Project**Jan 2013 - Apr 2013**

- Conceptualized and constructed a remote control UAV.
- Devised circuits to control actuators and sensors.
- Modelled flight trajectory, lift, take off distance, and thrust to optimize the UAV with respect to weight capacity.

Technical Skills

- Programming with Python (2 years), Scala (0.5 years), Java (0.5 years), C/C++ (academic use only), and Matlab (academic use only)
- Familiarity with Apache Spark (1 year), Hadoop MapReduce (2 years), and Apache Storm (0.5 years)

References available upon request.