Dhruv Sharma

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Mechatronics Engineering
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Skills

Software
-Python
-C++
-Java
-MATLAB
-C#
-Algorithms and Data Structures
-Hadoop
-Map Reduce
-SQL
-LabVIEW
-Git

Hardware
-Robot C to program NXT
-Arduino
-Data Acquisition Systems

Awards

-First in Class Engineering Scholarship (Nov 2014) (Rank 1 in a class of 150 students)
-2 × Deans Honor List (June *2014* - June 2015)
-Presidents Scholarship of Distinction (Sept 2013)

Activities and Interests

-Artificial Intelligence
-Deep Learning
-Machine Learning
-Robotics
-Analytics
-Design and Development
-Tutoring

Education

Bachelors of Mechatronics Engineering, Coop Program (2013 - Expected 2018)

Employment History

Data Scientist **May 2015-Aug 2015**

Capital One, Kitchener, ON

- Natural Language Processing in Python to analyze customer comment feedback
- Setup automated infrastructure to pull, process and write data to database, scheduled to run at regular intervals using cron jobs
- Generated reports in Tableau showcasing department specific Net Promoter Score (NPS) and satisfiers and dissatisfies in Canadian market to drive business decisions

Undergraduate Research Assistant – Big Data and Analytics **Jan 2015–April 2015**

Prof Wojciech Golab, University of Waterloo

- Worked on a consistency analyzer system (Java) aimed to find staleness of data in distributed systems. Implemented memory management solutions to decrease memory consumption
- Gained experience in HDFS and Apache spark for cluster computing

Software Developer **Sept 2014-Dec 2014**
Phoenix Interactive Design Inc., London, ON

- Software development for VistaATM (C++), windows based ATM terminal software. Wrote base classes, created and edited XML configuration files
- Created unit tests using Google's GTEST and GMOCK framework
- Developed a utility to analyze logs generated during application runtime (C#)

Research Assistant - Controls and Hydraulic Systems Intern **Jan 2014-Aug 2014**
Prof Amir Khajepour, University of Waterloo

- Created real time strain data logging software (LabVIEW), wrote VBA scripts to calculate stress from strain values. Set up data acquisition system. Installed and calibrated strain gauges
- Processed data collected during research using MATLAB and VBA scripts
- Produced engineering drawings using SolidWorks and performed machining and fabrication

Relevant Projects

Kategoria – Text Analytics, Capital One **May 2015-Aug 2015**

Tool leveraging text to get insights about customer sentiments. Built Text classification pipeline (feature extraction, feature selection, classification using Linear Support Vector Classification LinearSVC); Performed sentiment analysis on customer comments (TextBlob)

Facial Keypoints Detection (Kaggle) **June 2015-July 2015**

Implemented machine learning models – Linear Regression, Neural Nets for facial keypoints detection (Python, Scikit-Learn, Theano, Lasagne). Gained basic knowledge of convolutional neural nets. *https://github.com/d32sharm/FacialKeypointDetection*

Game Development in Python **Sept 2014 – Dec 2014**

Developed interactive games like Asteroid, BlackJack, Memory, Stopwatch in python (simplegui). *https://github.com/d32sharm/PythonGames*

SortBotLego - Robot Design Project **Sept 2013 – Dec 2013**

Lead a team of four students to design and program a Lego robot, capable of autonomously sorting objects based on color. *https://github.com/d32sharm/SortBotLego*

Relevant Knowledge

Machine Learning Stanford University (www.coursera.org/learn/machine-learning)

Linear, Logistic Regression, Clustering, Neural Networks, Support Vector Machines, Dimensionality Reduction

Experimental Measurement and Statistical Analysis

Measurements, errors propagation, sensors and data acquisition systems, testing hypothesis, curve fitting, regression and experiment design

Microprocessors and Digital Logic

Fundamentals of Digital Logic circuit, computer architecture, microprocessor design, simulation and implementation of FPGAs and PLC ladder diagrams

Algorithms and Data Structures

Abstract data types, recursion, algorithmic analysis, design, sorting, searching, hashing (C++)