Krutheeka Rajkumar, BS, MEng

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Final year Engineering Graduate student seeking full-time employment in June 2020.

EDUCATION

UNIVERSITY OF TORONTO	**Toronto, Ontario**
Master of Engineering – Emphasis on Analytics	Aug 2018- Present
Department of Mechanical and Industrial Engineering	Engr GPA: 3.94/4.0
COLORADO STATE UNIVERSITY	**Fort Collins, Colorado**
Bachelor of Science	Sept 2013- May 2017
Major: Engineering Science – Space Engineering Concentration	Engr GPA: 3.19/4.0
Minor: Mathematics	

TECHNICAL ASSETS & INTERESTS

- **Cloud:** AWS Elastic Beanstalk
- **Software Languages:** Python, C, C++, Java
- **Web Development:** Django, HMTL, JSON, CSS JavaScript, bootstrap, MySQL, Oracle, JQuery.
- **Version controlling system:** Git, Github
- **Coding platforms/IDEs:** Jupyter notebook, sublime text, cognitive labs, Eclipse.
- **Machine Learning libraries:** NumPy, SciPy, pandas, Matplotlib, Sci-kit Learn, Seaborn, beautifulSoup
- **Big Data (Hadoop):** HDFS, pig, spark, yarn, mapReduce, ambari
- **Financial Engineering:** RRN, Keras functional API, LSTM, time-series problems
- **Machine Learning Concepts:** data mining, data cleaning, Linear regression, Logistic regression, clustering, decision trees, neural nets, classification, feature engineering, SVM, non-linear programming, Artificial Neural network, time-series algorithm.
- **Mechanical/electrical engineering systems:** Arduino Duo, CNC, machine shop (lathe, bandsaws, drill press), Ansys CFD, SolidWorks CAD modeling, CREO parametric modeling.
- **Communication Languages:** English (native), Hindi and Tamil (fluent)

EXPERIENCE

CO-FOUNDER AND PRIMARY PROGRAMMER - TRAY SOLUTIONS Inc. May 2019 – December 2019

Front and Back End Developer [Hatchery – University of Toronto]

- Website: https://entray.ca
- Mobile website designed and created for multi-vendor restaurant marketplace using dine-in services
- Website created using Django framework and deployed through AWS
- External payment gateway (Stripe) implemented for online mobile payment with over 100 transactions successfully conducted through the website
- Two successful pilot tests completed at restaurants and three restaurants fully integrated with Tray
- Project evaluated on product quality, customer traction, pitch deck presentation, and business model development

PRICEWATERHOUSECOOPERS CONSULTING PROJECT Sept 2019 – December 2019

Communication liaison and team member [University of Toronto]

- A comprehensive report will be prepared and presented to understand the diversification of consulting firms to collaborate with other firms and develop new technology that will allow for hybrid of service and product-based models (e.g. PwC incorporated Scoop) rather than the current pure play service base model.

DATA STRUCTURES TEACHING ASSISTANT Jan 2019 – Present

Teaching Assistant and Lab Coordinator [University of Toronto]

- Lab teaching assistant in data modeling, MySQL DBMS, OLAP queries, and DB application with JDBC

WEB DEVELOPER - VICTORIA UNIVERSITY Sept 2018 – Present

Front and Back End Developer [E.J. Pratt Library]

- Maintained the EJ Pratt library website, front end development, implementing search systems and database maintenance

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INTERN - KING ABDULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY June 2017 – Dec 2017
Soft Robot Programming [Integrated Nanotechnology Lab - Dr. Muhammad Mustafa Hussain]

- In charge of designing and constructing a heart sleeve that would be capable of actuating heart muscles to help with ventricular blood circulation to assist patients who suffer from cardiomyopathy
- Constructed a soft robot that would actuate upon an electrical stimulus. After the testing and configuration of this robot was undertaken a final report was presented to the university.

BOEING 3D PRINTED ATTENUATOR PROJECT - COLORADO STATE UNIVERSITY Aug 2016- May 2017
Senior Engineering Design Project [Motor Engineering Research Centre – Dr. Donald W. Radford]

- Designed and analyzed the dual gantry system on a 3D printer capable of printing PEEK thermoplastics
- Created the CAD model of the printer and used this to conduct mechanical and heat analyses
- Showed proof of concept on lightweight, heavy-duty 3D printed alternatives for attenuators that line the inner walls of airplane turbines

TEAM MEMBER - COLORADO STATE UNIVERSITY Jan 2016 – May 2016
[Mechatronics Lab]

- Constructed an interactive punching bag for the Mechatronics Project
- Led the electronic and mechanical integration of the project
- Programmed IR sensors, actuator integrations, SD cards, and microcontrollers

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DATA SCIENCE PROJECTS

NLP Analysis

- Analyzed sentiments using NLTK libraries to study reviews of hotels from Trip Advisor and report on specific characteristics of a hotel that were positive or negatively rated. All hotels in the city were compared with each other based on a rating scale and visualized using seaborn plots.
- Analyzed tweets of airline travelers to quantify emotions felt by passengers towards any particular airline company in order to understand reasons for grievances towards the airline and created a regression model to summarize all the possible criteria for an airline's negative reputation.

KAGGLE Survey Analysis

- Cleaned survey results and analyzed correlation between different features and salaries, trained various machine learning models to predict future trends and correlations between a person's qualification and average salaries.

MovieLens - Recommender System

- Implemented a collaborative recommendation system to study user-user and item-item similarity to recommend movies to people based on 100,000 movie ratings from 943 users and a selection of 1,682 movies.

20 News Groups - Classification of Large Data Sets

- Analyzed 20,000 newspaper articles and categorized them into specific groups based on content of articles, cross-validating the results based on different parameters such as number of features, hyperparameter tuning, etc.

EXTRACURRICULAR ACTIVITIES

Financial Director, AMIGAS (Association of Mechanical and Industrial Graduate Students) May 2019 – Present

- Maintained financial records, planned annual budget, applied for funding, and oversaw/managed all financial transactions

Member, ISA (Indian Students Association) Sept 2013 – May 2017

- Event manager and emcee for India Nite 2013-2015
- Involved in the organizing, coordinating, and marketing of Indian Events (Diwali night, Holi, World Unity Fair, and India Nite) around CSU.

Volunteer, CSU Chemistry Club Sept 2013 – May 2017

- Participated in setting up and conducting STEM projects
- Worked on community outreach programs in order to promote STEM programs among high school students.