Krutheeka Rajkumar, BS, MEng

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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

EXPERIENCE

CO-FOUNDER AND PRIMARY PROGRAMMER - TRAY SOLUTIONS Inc.   May 2019 – Present
Front and Back End Developer [Hatchery – University of Toronto]

- 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

DATA STRUCTURES TEACHING ASSISTANT   Jan 2019 –April 2019
Teaching Assistant and Lab Coordinator [University of Toronto]

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

WEB DEVELOPER - VICTORIA UNIVERSITY   Sept 2018 – May 2019
Front and Back End Developer [E.J. Pratt Library]

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

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

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.

ASSETS & INTERESTS

- Django framework implementation and deployment to Elastic Beanstalk (https://entray.ca)
- Experience in Machine learning, data prediction and implementation of scikit learn, matplotlib, and pandas
- Certification in [APTECH Learning]:   Jan 2018-Aug 2018
  - C/C++, Java
  - JSON, UI/UX, JQuery, MySQL, Oracle
  - HTML, JavaScript, CSS
- Experience in Machining tools, linkage systems, electrical systems and mechatronic systems.
- Knowledge in Aerodynamic, space propulsion, mechatronics systems and Fluid systems
- Adobe Photoshop, Java, ANSYS programming analysis, CREO parametric modeling, SolidWorks CAD modeling, CNC and lathe machining, Microsoft Word, Microsoft Excel and Microsoft PowerPoint
- Native English speaker with oral fluency in Hindi and Tamil

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