

# KANIKA CHOPRA

DATA SCIENTIST

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## Education

**University of Waterloo** 2017 - 2022

Candidate for Bachelor of Mathematics

*Majoring in Mathematical Finance*

- Recipient of President's Scholarship
- Dean's List [Fall 2019]
- Excelled in Linear Algebra II, Probability, Statistics, Multivariable Calculus coursework

**Coursera – University of Stanford** 2019

*Machine Learning Certificate (In Progress)*

**University of Waterloo** Nov. 2018

*Introduction to SQL Certificate*

## Skills

### PROGRAMMING LANGUAGES

- Python
- MATLAB
- SQL

### TOOLS

- Pandas, NumPy, OpenCV, Rasterio
- Matplotlib, Plot.ly, Tableau
- Fastai, PyTorch, spaCy, Sklearn, nltk
- Jupyter Notebook (colab)
- HTML, CSS, Flask
- Microsoft Azure
- Microsoft Excel

### COURSES COMPLETED

- Fast.ai Deep Learning course
- MathWorks MATLAB Onramp

## Hobbies

Watercolor Painting, Pen Sketching, Hiking, Biking

Goals:

- Bike over 25 km
- Hike at every National Park in the U.S.A

## Work Experience

### Data Science Intern

09/2019 – Present

*Goldspot Discoveries Inc.*

- Implementing a Principal Component Analysis on satellite images to highlight the main components visible for further mineral composition analysis using Sklearn and rasterio
- Training an NLP text classifier to conduct a sentiment analysis on tweets related to the gold stock price; currently achieving 87% accuracy
- Manipulated insider score data into 20 bins and calculated the population stability index for a Plot.ly multi-plot visualization; deployed on internal website using Flask
- Used Plot.ly to create interactive time series plots to provide a stock price technical analysis with 20-, 50-, 200-day moving averages and relative indexes
- Automated paper trading by processing stock price data using Tiingo's API to implement a Reinforcement Learning model with paper trading using Interactive Broker's API

### Strategic Initiatives Analyst Co-op

01/2019 – 04/2019

*Royal Bank of Canada*

- Automated team reporting by determining appropriate metrics using direct GitHub verbiage stored in SQL server and then visualizing the data in an interactive dashboard on Tableau for senior management decisions
- Developed Python scripts using Selenium, BeautifulSoup and Requests for dynamic web scraping to find and download all article files from a website into a directory
- Used a Python library, PyPDF, to read article files, and clean and extract key data as JSON
- Visualized event registration data with a storyboard on Tableau for marketing purposes to display demographic and geographic analysis on registrants
- Completed data insight requests for 1000+ clients to analyse and create visualizations based on location and demographics using Excel

## Projects

### Posturizer (OpenCV/Microsoft Azure)

09/2019

*Hack the North 2019*

Posturizer is a web app that takes a photo of a user, identifies their posture and speaks back providing appropriate advice

- Preprocessed collected training image dataset to recognize and blur out faces in the photo to preserve privacy and increase model's accuracy using OpenCV
- Trained a Microsoft Azure AI Custom Vision model with the pre-processed training data to classify five postures: leaning forward, back, right, left and good with 91.4% accuracy

### MissiNews NLP Analysis (nltk/Tweepy/numpy/pandas)

10/2019 – Present

- Collected and preprocessed 3000+ tweets from The Mississauga News scraped to remove stop words, and perform tokenization and lemmatization using nltk
- Identified the most frequent unigrams per month in tweets using Bag of Words
- Visualizing the data to be able to input a month and topic (e.g. crime) to compare monthly common unigrams and tweet sentiment using Plot.ly

## Leadership Experiences

### Teen Mentor/Leader

09/2014 – 12/2018

*Big Brother Big Sisters Organization*

- Mentored and provided students from the Peel and Waterloo regions with fun activities to develop their interpersonal skills
- Organize activities for the weekly meetings between mentors and mentees