



# NAFIS ABRAR



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## EDUCATION

- 4th year • **B.Sc. in Computer Science** at University of British Columbia  
Focus on Machine Learning  
Notable courses: Intelligent Systems/AI, Machine Learning, Advanced Database, Computer Vision, Software Engineering, Statistical Learning. ♥ Vancouver

## WORK

- Jan 2019 - Present  
Scikit-learn, XGBoost, SQL, matplotlib, Spark, Flask, Docker, MS Azure • **DATA SCIENTIST** ♥ Toronto  
at ScotiaBank (Artificial Intelligence and Machine Learning Team)  
• Currently working in an Agile team for Scotiabank's global fraud detection AI software. Applying ensemble methods for prediction and inference.  
• Performed sensitivity analysis and hyperparameter tuning to improve model performance.  
• Set up multiple pipelines using Microsoft Azure and Docker to parallelize the training phase. This resulted in a speed up of 50%.  
• Presented results to stakeholders and potential customers.
- Jan 2018 - Aug  
Django, Pandas, Scikit-learn, PostgreSQL, HTML/CSS/JS, matplotlib, MS Azure, Github, Linux • **SCIENTIFIC SOFTWARE DEVELOPER** ♥ Vancouver  
at BC Cancer Research Centre (Sohrab Shah Lab)  
• Worked on a machine learning research project for integrating genomic data with imaging data of cancer cells to classify dead/alive cells. The classifier resulted in a prediction accuracy of 84%.  
• Performed data analysis and implemented machine learning algorithms for cancer cell clustering problems and Microsoft hololens cell visualization app using Python libraries.  
• Implemented, extended and documented python APIs and REST interfaces.
- May 2017 - Sept 2017  
Django, HTML/CSS/JS • **FULL STACK WEB-DEVELOPER** ♥ Vancouver  
at UBC EOSC (Earth and Ocean Sciences)  
• Contributed to the backend of the UBC EOSC website by creating models, views and forms using Django.  
• Exported CSV files from older Drupal7 UBC website and wrote Python scripts that automatically created objects in the new Django website using the CSV data. This resulted in loading 1000+ records in the new website.



## RELEVANT PROJECTS

- June 2018 • **PIMS BC DATA SCIENCE NLP CAPSTONE PROJECT (COMM100)**  
Language: Python Frameworks: Pandas, Scikit Learn, TextBlob, spaCy  
• Worked in a team of 10 to determine intent and create knowledge base from live chat transcripts. The data set was provided by Comm100 which includes online chat sessions.  
• The goal of the project was to cluster or correlate chat sessions and build a knowledge base in an automated way using mathematical models.  
<http://workshop.bcddata.ca/2018/finalpres/comm100-slides>.
- October-Present  
Personal Projects • **MACHINE LEARNING/DATA SCIENCE**  
Language: Python Frameworks: Pandas, Scikit Learn  
• Implemented supervised and unsupervised machine learning algorithms with Python (pandas, numpy). The following algorithms are implemented: Linear Regression, K-means, KNN, RBF-Kernels and Stochastic Gradient Descent.  
• Built a sentiment analyser that extracts data from Twitter given a topic. The data from the Twitter API is then processed to give a result of how people feel about the user provided topic.  
• Worked on computer vision projects such as scene recognition with bag of words, face detection in a scaled representation, local invariant features and RANSAC.

## Programming Languages

- Java Competent (1 year)  
Projects : Restaurant App, Advanced Calculator, DNS Server, FTP Client, Gym Database using JDBC
- C Basic (8 months)  
Projects : FTP Server , x86 implementation
- Python Competent (2 years)  
Projects : Machine learning algorithms, Django-UBC EOSC website, Rhoads, NLP
- SQL Competent (1 year)  
Projects : GYM Database, UBC EOSC website
- Unix/bash Competent (1 year)



## Web development and Design

- HTML and CSS - Competent (4 months)  
Projects : UBC Eosc website, Rhoads website
- TypeScript\* - Basic (3 months)  
Projects : Insight UBC
- Django - Proficient (8 months)  
Projects : UBC EOSC website, Rhoads website



## Machine Learning/Data Science

- Python - scikit-learn, Pandas, matplotlib
- PySpark\*
- Xgboost\*
- TensorFlow\*
- Microsoft Azure

\*Current learning for work project

## Dev-ops

- Github
- Docker
- Jira



## Publication

- Scalable whole genome sequencing of 40,000 single cells identifies stochastic aneuploidies, genome replication states and clonal repertoires.

<https://www.biorxiv.org/content/early/2018/09/13/411058>