

Gurkamal Deol | Bioinformatics Software Developer

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Education

The University of Guelph

MASTER OF BIOINFORMATICS IN CONCENTRATION - MACHINE LEARNING

Guelph, ON

Sep 2018 – Aug 2019

The University of Western Ontario

BSC. IN HONORS SPECIALIZATION IN GENETICS | PHARMACOLOGY

London, ON

Sep 2012 – Jun 2017

Work Experience

Cyclica Inc

BIOINFORMATICS DEVELOPER (CO-OP)

Toronto

Apr 2019 – Aug 2019

- Worked in a jupyter notebook environment heavily utilizing pandas, numpy, and RDKit
- Created and developed a database of 17 million compounds, records included structural, chemical, and commercial information.
- Developed a pipeline which searches the custom database while computing similarity scores for millions of compounds using python postgresQL, and RDKit

The University of Western Ontario

RESEARCH ASSISTANT

London, ON

Apr 2016 – Jun 2017

- Thesis Project: Detecting Prostate Cancer Using Tumor-Activatable Minicircles Encoding the Secreted Biomarker SEAP
- Data collection using the following experimental procedures: Bioluminescence imaging of cells; Western blotting; BCA assays; Immunocytochemistry; PSA testing - ELISA kit.
- Producing Tumor-Activatable Minicircles - Steps include transgene cloning, DNA extraction/isolation; PCR; transformation, cloning, plasmid purification.

Languages and Tools

Python: Scikit-learn, pandas, RDKit, Django, Seaborn

R: Caret, glmnet, Tidyverse, Vegan

Tools: Linux, postgresQL, Github, Virtual box, Jupyter

Selected Projects

Classifying p53 agonists using molecular fingerprints as features with sklearn and RDKit.

Python, RDKit, Jupyter, Scikit-learn, Seaborn

THIS PROJECT ANALYZES THE ABILITY OF FOUR SEPERATE MOLECULAR FINGERPRINTS AS FEATURES FOR CLASSIFYING P53 AGONISTS. THE PROJECT LOOKS AT CLASS IMBLANCE, SCORING METRICS, AND MODELING USING: LOGISTIC REGRESSION, KNN, AND GRADIENT BOOSTING.

Faq2Var

sickle, sabre, SamTools, HTSlib, BCFtools, bwa

A PIPELINE WRITTEN IN BASH THAT TAKES A FASTQ FILE AND RETURNS A VCF FILE.

Certificates and course

ongoing **Neural Networks and Deep Learning,**

deeplearning.ai

ongoing **Convolutional Neural Networks,**

deeplearning.ai

June 2019 **Programming Foundations: Algorithms,**

Lynda.com

June 2019 **Programming Foundations: Data Structures,**

Lynda.com