**CPSC 532M Final Report Outline**

**Timeline**

**Sun. Dec 17th (11:59pm):** Finish test data simulation and all graphs

**Tue. Dec 18th (11:59pm):** Finish all sections of report

**Wed. Dec 19th:** Meet up and combine report, final edits - structure check and grammar check

# Title: ML Based Automated Pharmacokinetics Modeling in Individualized Medicine

# Abstract

* “Hook” paragraph summarizing the problem statement
  + Detection of pk model and parameters from data currently being done manual
  + Data interpretation of the amount of dosage isn’t accurate
* Briefly state the result of our project and how it has contributed to solving the problem

# 1. Introduction

* Introduce background knowledge of PK models and what they do
  + Describe the 4 types of models we will be analyzing in the report
* Describe the direction of the problem that we are trying to solve (more detailed elaboration on abstract statement)

# 2. Related works

* State their methods and results (1 paragraph per method)
* State current use of area-under-curve to find the amount of dosage

# 2. Methodology

## 2.1 RBF

## RBF to fit the curve of the data

## 2.2 KNN

* Using KNN to detect the type of pk model and its parameter values (k, ka, tau)
* Have 150(ish) sample data added beforehand, then run real data to test

# 3. Experiment

## 3.1 RBF

* Qualitative result of error improvement in using RBF vs. area-under-curve

## 3.2 KNN

* For each of the methods below:
  1. State prediction accuracy
  2. Show one test curve graph
  3. Analyze observations seen from graph

### 3.2.1 IV Onedose

### 3.2.1 IV Multidose

### 3.2.1 PO Onedose

### 3.2.1 PO Multidose

3.3 DBSCAN(based multiple dose fitting method)

# 4. Discussion

* Conclude and discuss how the results impacted the problem stated in introduction
* Explain future work based on this paper
* (If additional space) Add density-based clustering method for finding multidose interval