

## EDUCATION

**University of Saskatchewan**  
M.Sc Electrical and Computer  
Engineering 2017

**University of Science and  
Technology of China**  
B.Sc Electrical Engineering 2012

**Springboard**  
Certificate Data Science Career Track  
2018

## SUMMARY

As a data scientist, I specialize in machine learning algorithms related to medical image processing and biometrics. Besides my expertise, I also have working knowledge of other parts of data science, such as inferential statistics, exploratory data analysis, SQL operations, and Spark operations. While being self-disciplined and have high self-working efficiency, I thrive in a collaborative environment.

Qualifications:

- Specialized in machine learning and pattern recognition methods on image processing and biometrics
- Working knowledge of data science workflow
- Experience in presenting data-driven projects to scientists and general public in national and international meetings
- Respect project deadlines

## SKILLS

**DATA SCIENCE RELATED:** Hypothesis Testing, Classification Algorithms, Regression Algorithms, Clustering Algorithms, Deep Neural Networks, SQL

**CODING LANGUAGE AND RELATED PACKAGES:** Python, Matlab, Pandas, Scikit-learn, Tensorflow, Spark

**OTHERS:** Medical Image Processing, Bio-signal Processing

## EMPLOYMENT

**UNIVERSITY OF SASKATCHEWAN**  
Research Assistant

Saskatoon  
2012 to 2017

I conduct research objectives related to machine learning and pattern recognition, especially on medical imaging (PET, CT, and MRI) and biosignals (ECG and SCG). I learned about deep neural networks and how to handle large data scenario during this process.

## PROJECTS

**SPRINGBOARD CAPSTONE PROJECT 2: LUNG TUMOR DETECTION IN CT IMAGES**

Nov 2017 to Jan 2017

The task of this project is detecting lung tumor in CT images. A convolutional neural network is used in this project. With several limitations, the performance beat the competition benchmark on the kaggle site.

**SPRINGBOARD CAPSTONE PROJECT 1: WALMART SALES PREDICTION IN EXTREME WEATHER** Aug 2017 to Oct 2017

The task of this project is predicting Walmart sales during extreme weather events. Multiple machine learning algorithms are used and the performance overall is comparable to a silver entrance on the kaggle competition site.

**MASTERS THESIS: TUMOR RECOGNITION AND SEGMENTATION IN PET-CT IMAGES**

Mar 2015 to Jul 2016

The task of my thesis is to provide an automatic and accurate segmentation method for lung tumor regions. Graph-cuts is deployed to merge the information from PET and CT, therefore accurate boundary can be drawn for high-radiation regions in low-resolution PET images. After that, multiple image feature extraction methods are used to extract features from the high-radiation regions, and SVM is deployed to identify tumor from those regions. Overall segmentation performance is 93% dice index rate

**BIOMETRICS USING SEISMOCARDIOGRAPHY (SCG)**

Oct 2013 to Oct 2014

The task for this project is to identify people using their SCG signals. The autocorrelation method is used to extract features from SCG signals. Then, multi-class regression method is used for the identification task. The overall performance is 95% identification accuracy on over 300 samples from 25 users

## AWARDS

Department of ECE, University of Saskatchewan ·  
**ELECTRICAL & COMPUTER ENGINEERING DEVOLVED SCHOLARSHIP**

2014

Royal University Hospital · **ROYAL UNIVERSITY HOSPITAL SCHOLARSHIP**

2013

Ministry of Education of China · **NATIONAL SCHOLARSHIP**

2010