

**NIAN LIU | JOB HUNTING**  
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## EDUCATION

**Concordia University** Montreal, Canada 2019.9 - 2021.7

Thesis base Master of Computer Science, Software Engineering

- GPA: 3.6/4

**Hunan University (211, 985)** Changsha, China 2014.9 - 2018.7

Bachelor of Computer Science, Technology

- GRE: Verbal 151; Quantitative 170

## WORK EXPERIENCE

**Concordia University**  
Research Assistant Montreal, Canada 2019.9 –

*Characterizing TensorFlow Deprecated Python API: An Empirical Study (Paper in Progress)*

- Did an Empirical study about TensorFlow deprecated APIs. Analyzed 15 TensorFlow releases from TensorFlow 1.5 to the latest version to investigate API deprecation situation and API deprecation reason.
- Furthermore, we select about 30 popular deep learning models and manually migrated deprecated APIs inside to compare the trained model accuracy difference.
- Our finding could give insight into how deprecated APIs evolved in TensorFlow and help developers understand why APIs become deprecated and the impact on their model if they did not migrate their code timely.

*An Empirical Study of the Impact of Architecture Refactoring on Software Performance*

- Investigated 46 architecture refactoring related commits from 3 popular Java framework HBase, Cassandra, Hadoop, and classified them into 4 categories. Run JUnit tests before and after commits to evaluate the performance (CPU Time, Memory Usage, and Response Time) difference.

**Xinhua News Future Media Convergence Research Institution**  
Algorithm Engineer Beijing, China 2018.7 - 2019.3

*The Affective Benchmarking of Movies Based on the Physiological Data of Audiences*

- Implement a paper algorithm independently which monitors the affective benchmarking of movies based on the physiological responses of a real audience collected from Electro Dermal Activity (EDA) sensor.

- This algorithm could be used to predict movie box office, help director understand audiences' emotion on the movie and maybe improve the plot later.

#### *Detecting Attention During Real-Word Driving Tasks Using Physiological Sensors*

- Using an unsupervised learning algorithm to divide the intensity of drivers' attention on broadcast based on the Electro Dermal Activity (EDA) data.

### **PROJECT HISTORY**

#### **UNDERGRADUATE LESSON**

2014-2018

- Crawl Samsung mobile phone information from e-commerce website like title, price, battery, etc. (github.com/heregreat/Crawler), Personal Project, 2018.3
- Design of Sparse Matrix-Vector Multiplication Algorithm with MapReduce Technology Using FLINK, Graduate Project, 2017

### **RELEVANT SKILLS**

#### **Programming Languages**

C++, Java, Python, MATLAB, R  
Chinese(native), English