# Fanchi Meng

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Portfolio https://fanchi.github.io
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## Background

I am a PhD graduate specifying in Software Engineering and Intelligent Systems at the Department of Electrical and Computer Engineering, University of Alberta. I have experience in Java, Python, machine learning, deep learning and (big) data analysis.

## Education

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| 2014/01 – 2018/01 | PhD in Software Engineering and Intelligent Systems, Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Alberta, Canada. |
| 2006/09 – 2013/06 | Bachelor and Master in Computer Science and Technology, College of Information Engineering, Northwest Agriculture and Forestry University (project "985" top university), Xi'an, China. |

## Experience

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| 2014/01 – 2018/01 | Research assistant at University of Alberta. Responsible for:<br>• Developing and deploying machine learning based methods to predict functions from biology data.<br>• Retrieving and analyzing data from databases and searching for patterns between these data and some diseases. |
| 2010/06 – 2010/10 | Intern software developer at digital multimedia retrieval lab, Northwest Agriculture and Forestry University. Responsible for developing windows client for a video conference system. |

## Representative Projects

1. [Machine Learning] DMRpred
   - A machine learning model that predicts multi-functional regions from protein data (tabular data)
   - Binary classification
   - Machine learning model: Random Forest
   - Webserver: http://biomine.cs.vcu.edu/servers/DMRpred
   - Back end implementation: Java + MySQL
2. [Deep Learning] Plant seedling classification
   - Determine a plant's species from a photo
   - Multiclass classification
   - Machine learning model: Convolutional Neural Network
   - Framework: Keras with tensorflow backend
3. [Big Data] Recommender system
   - Movie recommender system running on Hadoop
   - Based on item-item collaborative filtering (item CF)
   - Five chained MapReduce jobs
   - Project page: https://github.com/fanchi/RecommenderItemCF

## Representative Publications

1. F. Meng, C. Wang and L. Kurgan, "fDETECT webserver: fast predictor of propensity for protein production, purification, and crystallization", ***BMC Bioinformatics***, 18:580, 2017.
2. F. Meng and L. Kurgan, "DFLpred: High-throughput prediction of disordered flexible linker regions in protein sequences", ***Bioinformatics***, vol. 32, pp. i341-i350, 2016.
3. F. Meng, C. Cai, and H. Yan, "A Bicluster-Based Bayesian Principal Component Analysis Method for Microarray Missing Value Estimation", ***IEEE Journal of Biomedical and Health Informatics***, vol. 18, pp. 863-871, 2014.

A full list of my projects and publications can be found at https://fanchi.github.io

## Skills

- Strong computer science fundamentals in data structures and algorithms.
- **Programming languages:** Python, Java and Matlab.
- **Machine learning/data mining frameworks:** scikit-learn, Tensorflow, Keras and Weka.
- **Big data:** Hadoop Map-Reduce.
- **Database:** SQL.
- **Operating System:** Linux shell/GUI.
- **Version control/workflow:** Git.