

# Lifeng Jia

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## ADDRESS

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**CITIZENSHIP:** U.S. Permanent Resident

## OBJECTIVE

Seeking a position related with machine learning, natural language processing and optimization.

## PROFESSIONAL SKILLS

- Solid understanding of deep learning on: 1) CNN and RNN architectures, such as ResNet and LSTM; 2) attention mechanisms in encoder-decoder architectures; 3) regularization techniques, such as drop out and batch normalization; 4) deep learning applications on NLP, such as sentiment analysis.
- Deep understanding of machine learning on: 1) supervised classification methods, such as Naive Bayes and SVM; 2) unsupervised clustering methods, such as K-means and DB-scan. 3) dimension reduction techniques, such as PCA; 4) ensemble learning methods, such as Bootstrap and Boosting;
- Proficient on Python, Scala and Spark programming and extensive practice in on machine learning packages, such as keras and scikit-learn.
- Great enthusiasm for innovation, strong motivation for learning and excellent management and communication skills.

## EDUCATION

**University of Illinois at Chicago, USA**

2006 - 2013

PhD of Computer Science

**Jilin University, China**

2003 - 2006

Master of Computer Science

**Jilin University, China**

1999 - 2003

Bachelor of Computer Science

## EXPERIENCES

### • **Director of Optimization**

**Conversant LLC.**

Aug 2015 – Present

#### ➤ **Real-Time Bid Optimization Suite**

Built a suite of online models that optimize digital advertisement campaigns' performance in real time. These online models adjust campaigns' audiences (who to show ads), allocate budgets (how much money to spend on ads) and calculate bidding prices (how to spend budgets) to optimize campaigns' KPIs, such as conversions, viewability and clicks and so on.

#### ➤ **Real-Time Auto-Pacing**

Established online models that calculate optimal bid prices in real-time for a digital advertisement campaign to efficiently spend its budgets. It is characterized by 1) a LSTM model to predict campaign's future online ads inventories; 2) a quadric programming model that allocates its total budgets over hours to minimize costs and 3) a pricing model to calculate bid prices in real-time to spend allocated budgets efficiently and effectively.

#### ➤ **Bid Strategy Optimization**

Designed a model to calculate optimal long-term (daily or weekly) bidding strategies for digital advertisement campaigns. Specifically, the model first studies various campaigns' distributions (e.g. win rate vs. costs, probability of conversions) from their historical data and then computes their optimal bidding strategies to satisfy campaigns' performance goals while minimize their costs.

➤ **Social Media User-Level Demographic Classification**

Proposed models to classify demographic information (i.e. gender, age and geo) of social media users based on their social media contents and meta attributes, such as tweets. Bootstrapping post-level demographic classification results into user-level information.

➤ **Social Media Audience Creation for Digital Targeting**

Designed an audience system of automatically creating sufficiently large audiences for digital advertisement campaigns. The system is characterized by: 1) learning collaborative-filtering models to recommend new topical interests to social media users based on the original interests of their posts; 2) calculating interest profiles of given small seeds of users by statistical measures, such as adjusted residuals, z-score of odd-ratios and chi-square scores; 3) finding users sharing similar interest profiles to given seeds.

➤ **Consumer vs. Non-Consumer Twitter User Classification**

Designed a classification system that differentiates consumer Twitter users from non-consumer Twitter users based on their monthly behaviors. Non-consumer Twitter users normally refer to spammers, bots, promoters, official Twitter users and so on. The system classifies 1.5 billion tweets within 1 hour.

➤ **Social Media Spam Classification**

Designed classifiers to identify spam posts within various social media feeds, such as Twitter, blogs and forums. Implemented classifiers by learning Random Forests and Naive Bayes models from Weka and BM25 model.

➤ **Social Media Post-Level Demographic Classification**

Designed models that classify the demographic information of social media users based on a single social media post. Implemented models by employing SGDClassifier from python scikit-learn package and so on. Studied the precision-recall curves of learned models to guarantee high precisions in expense of recalls. For example, gender classifier achieves at least 80% in precision with a recall of 72% while age classifier achieves the same precision at a recall of 20%.

## **CERTIFICATIONS**

Deep Learning Specialization

Coursera

- Neural Networks and Deep Learning
- Structuring Machine Learning Projects
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization
- Convolutional Neural Networks
- Sequence Models

Functional Programming in Scala Specialization

Coursera

- Functional Programming Principles in Scala
- Functional Program Design in Scala
- Parallel programming
- Big Data Analysis with Scala and Spark
- Functional Programming in Scala Capstone

Basic Modeling for Discrete Optimization

Coursera