

# BO LIU

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## Objective

To obtain a Software Engineer (Data Science) position for new graduate.

## Summary

I am currently a software engineer in Epic Systems Corporation with H1B Visa. I graduated from Dalhousie University in **September 2015** with a master degree in data science. Before coming to U.S, I was a Research Assistant in **Institute for Big Data Analytics**, under the supervision of **Prof. Stan Matwin** (Canada Research Chair Tier 1). I am a self-motivated fast learner with strong team work spirit and great enthusiasm for **Data Mining, Machine Learning and Big Data Analytics**.

## Education Background

- 09/2013- **Master of Computer Science**, *Dalhousie University*, Canada.  
09/2015 GPA:4.00/4.3  
09/2009- **Bachelor of Engineering in Software Engineering**, *Sichuan University*, China.  
07/2013 Overall GPA:3.32/4.0; Major GPA:3.6/4.0

## Selected Projects

- 06/2014- **Effects of Large Marine Protected Areas on Global Fisheries**, *Institute for Big Data Analytics*, Canada.  
09/2015  
  - Focused on modeling fishing patterns from the view of Machine Learning
  - Analysed and model fishing behaviours by time series analysis, clustering algorithm (e.g. DBSCAN) and various classification techniques ( SVM, C5.0, Naive Bayes, Random Forest etc.)
- 09/2013- **Intelligent Maritime Solutions From AIS Satellite**, *Institute for Big Data Analytics*, Canada.  
09/2015  
  - A joint project between Canada and Brazil sponsored by ISTP
  - Involves clustering, anomaly detection techniques, AIS data features extraction and other machine learning algorithms
  - Proposed one novel density-based trajectory clustering algorithm for normal maritime lanes generation
  - Developed one unsupervised framework for maritime traffic anomaly detection
- 12/2011- **Collection and Visualization of Android Users' Phone Usage Habits Data**, *Sichuan University*, China.  
03/2012  
  - Aimed to visualize individuals' cellphones usage habits and help consumers reduce the reliance on their phones
  - Implemented an Android-based system with SQLite3, AChartEngine, RenRenAPI.
  - Attracted over 20,000 users in the first 2 months after publication

- Won the National Third Prize in Public Welfare Programming Competition of Baidu AStar Programming Contest.

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## Work Experience

- 09/2013- **Research Assistant**, *Institute for Big Data Analytics*, Halifax, Canada.
- 09/2015 • Research and implement machine learning and statistical techniques to create scalable and  
Mainly effective models in various research projects
- Involved • Problem definition, literature reviews, data preprocessing, features extraction, model  
development, model validation and model implementation
- 09/2014- **Teaching Assistant**, *Dalhousie University*, Halifax, Canada.
- 05/2015 • Introduction to Database System, CSCI2141 (Fall 2014)
- Courses • Data Mining and Data Warehousing, CSCI4144/CSCI5405 (Winter 2014)
- 06-08/2012 **Intern**, *ChinaSoft International*, Chongqing, China.
- Mainly • Participated in a development group with 8 members and Developed an enterprise's  
Involved financial management system based on J2EE
- Responsible for database design and realization of back-end's core code
  - Required to communicate with clients and offer help to other team members.

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## Publications

- 10/2014 Bo Liu, Erico N.de Souza, Stan Matwin, and Marcin Sydow, **Knowledge-based Clustering of Ship Trajectories Using Density-based Approach**, in *Proceedings of IEEE International Conference on Big Data (IEEE BigData 2014)*, 27-30 October 2014, Washington, DC, USA.
- 10/2014 Robert Warren and Bo Liu, **Language, Cultural Influences and Intelligence in Historical Gazetteers of the Great War**, in *Proceedings of IEEE International Conference on Big Data (IEEE BigData 2014)*, 27-30 October 2014, Washington, DC, USA.
- 04/2015 Bo Liu, Erico N. de Souza, Cassey Hilliard and Stan Matwin, **Ship Movement Anomaly Detection Using Specialized Distance Measures**, in *Proceedings of 18th IEEE International Conference on Information Fusion (FUSION 2015)*.

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## Honors and Awards

- 09/2013 **Graduate Scholarship** *Granted by Dalhousie University*, Two Years.
- 10/2012 **Third Comprehensive Scholarship** *Granted by Sichuan University*.
- 08/2012 **National Third Prize in Public Welfare Programming Competition of Baidu AStar Programming Contest**. *The competitors are from 127 universities of China*.
- 11/2011 **First Individual Prize of Scholarship in Sichuan University**.

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## Skills

Java, C#, R, SQL, Python, Unix, Javascript, Html, CSS, Android Programming, Latex, UML