Bo Liu

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PROFESSIONAL EXPERIENCE	**Amazon.com**, Seattle, Washington, USA

Amazon.com, Seattle, Washington, USA
- Software Engineer   01/2017 – Present
  - Computational Advertising.

Epic Systems Corporation, Madison, Wisconsin, USA
- Software Engineer   10/2015 – 12/2016
  - Working on building Epic's next generation cloud-based cognitive computing platform.
  - Doing design, development and unit-testing using Node.js, C#.NET and Typescript.
  - Collaborated with developers from cloud vendors and different teams within Epic to build various POC pipelines using Spark, Scala and other Hadoop frameworks.
  - Mentored summer interns to successfully design and implement a free-text search engine across large population leveraging Elasticsearch.

Institute for Big Data Analytics, Halifax, Nova Scotia, Canada
- Research Assistant   09/2013 – 08/2015
  - Researched and implemented machine learning models in various research projects.
  - Daily work includes problem definition, literature reviews, data preprocessing, features extraction, model development and validation.

EDUCATION

Dalhousie University, Halifax, Nova Scotia, Canada   09/2013 – 08/2015
- Master of Computer Science, GPA:4.0/4.3
  - Full-funded Graduate Scholarship

Sichuan University, Chengdu, Sichuan, China   09/2009 – 08/2013
- Bachelor of Software Engineering, GPA:3.6/4.0
  - Comprehensive Scholarship
  - National Third Prize in Baidu Public Welfare Programming Competition

PROJECTS

Intelligent Maritime Solutions From AIS Satellite   09/2013 – 08/2015
- A research-oriented project for detecting anomalies from AIS trajectory data.
  - Proposed a density-based trajectory clustering algorithm for normal maritime lanes generation.
  - Proposed a distance-based anomaly detection methodology using the clustering result.
  - Developed one unsupervised maritime traffic anomaly detection framework in Java and R.

Effects of Large Marine Protected Areas on Global Fisheries   06/2014 – 08/2015
- Aimed to model fishing patterns to detect illegal fishing activities
  - Analysed and modeled fishing behaviours by time series analysis, clustering algorithm (e.g. DBSCAN) and classification techniques (e.g. SVM, C5.0, Naive Bayes, Random Forest).

Recommendation System For Alibaba Double-Eleven On-line Retail Data   03/2015
- Built a predictive model for the big data competition held by Alibaba to predict which users will buy which products on the 31st day given 30-day retail data.
  - Focused on features engineering to model users behavior using Random Forest.
  - Ranked 4 out of over 15,000 teams in the first phase of the competition with F-score of 11.18.

PUBLICATIONS

B Liu, E Souza, C Hilliard and S Matwin, **Ship Movement Anomaly Detection Using Specialized Distance Measures**, *IEEE FUSION 2015*, July 2015, Washington, DC, USA

B Liu, E Souza, S Matwin, and M Sydow, **Knowledge-based Clustering of Ship Trajectories Using Density-based Approach**, *IEEE BigData 2014*, October 2014, Washington, DC, USA

X Wang, X Liu, B Liu, E Souza, and S Matwin, **Vessel route anomaly detection with Hadoop MapReduce**, *IEEE BigData 2014*, October 2014, Washington, DC, USA

SKILLS

Programing Languages: Java, C#, R, Javascript, SQL, Cache
Knowledge: Unix, Spark, Hadoop, Node.js, Typescript, Android Programing