Yong Zhuang

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Profile

- Highly accomplished, skilled and knowledgeable computer science student with over eight years software development experience and five years applied machine learning experience. Excellent in working with others to achieve a certain objective on time and with excellence.

Education

University of Massachusetts Boston   *Boston, MA, U.S.*

PH.D. IN COMPUTER SCIENCE   *Sep. 2016 - PRESENT*

University of Massachusetts Boston   *Boston, MA, U.S.*

MASTER IN COMPUTER SCIENCE   *Sep. 2014 - Jun. 2016*

Harbin Engineering University   *Harbin, Heilongjiang, China*

B.E. IN COMPUTER SCIENCE   *Sep. 2001 - Jul. 2005*

Skills

- Machine Learning, Tensorflow, Keras, Pytorch
- Python, Matlab, Java, ASP.NET, C#, PHP, JavaScript
- ArcGIS (Map, Server, SDE and Desktop)
- Oracle, Access, Microsoft SQL Server, MySQL
- Advanced skills in Design Patterns, MVC, CSS, Jquery, AJAX

Computer Science or Relevant Experience

Radial Analytics   *Concord, MA, U.S.*

NSF INTERN   *Jun. 2019 - Nov. 2019*

- Apply Machine Learning technologies in clinical data analysis to help hospital systems and physician networks deliver more efficient care to their patients, and to help patients better receive the necessary care, tailored to their individualized needs.

Knowledge Discovery Lab(Dr. Wei Ding)   *Boston, MA, U.S.*

RESEARCH ASSISTANT   *Dec. 2014 - Present*

- Design, build, and deploy Machine Learning applications to solve real-world problems empirically

Liaoning Huiyin Science and Technology Ltd.   *Anshan, Liaoning, China*

SOFTWARE ENGINEER   *Apr. 2011 - Mar. 2012*

- Responsible for the software design for web applications, specific programming projects pilot design and mentoring others.

Liaoning Triexcel Co., Ltd.   *Anshan, Liaoning, China*

SOFTWARE ENGINEER   *Mar. 2008 - Apr. 2011*

- In charge of multiple projects that were related to computer engineering. Participated in the design work of several large-scale projects, which extensively broadened professional experiences and improved comprehensive ability in overseeing the entire projects.

Research and Project Experience

Long-lead Flooding Forecasting   *Project Lead*

UNIVERSITY OF MASSACHUSETTS BOSTON   *Aug. 2018 - PRESENT*

- Using deep neural architectures to predict flooding based on meteorological data.

Long-lead Precipitation Forecasting
UNIVERSITY OF MASSACHUSETTS BOSTON
Project Lead
Dec. 2017 - May. 2018
- Using state-of-the-art data mining algorithm to identify the strong high-level relevant meteorological features for extreme precipitation prediction, and using classification algorithm to forecast extreme precipitation clusters.

Real-Time Crime Forecasting
UNIVERSITY OF MASSACHUSETTS BOSTON
Project Lead
Jul. 2016 - Nov. 2017
- Develop an LSTM network for advanced place-based crime forecasting through the use of data from one police jurisdiction.

Mars Phoenix Mission Data Analysis
UNIVERSITY OF MASSACHUSETTS BOSTON
Member
Jan. 2015 - May. 2016
- Using a new data-driven learning method to reduce the variations in the Mars soil data without changing the base mean level of the data to avoid altering the physical meaning of the data distribution.

After-sale service platform
LIAONING HUIYIN SCIENCE AND TECHNOLOGY LTD.
Independently Accomplished
Jun. 2011 - Nov. 2011
- Using the techniques of ASP.Net / MVC / jQuery / AJAX and Bing Map, designed and implemented an after-sale service platform, the system provides view of financial equipment on a map and also the real time data monitoring. In addition, the mobile phone based application, carried by services member to record GPS and path for the services provided.

GIS-based Hazard Management System
LIAONING TRIEXCEL CO., LTD.
Project Lead
Feb. 2009 - Jun. 2011
- Using the techniques of ASP.Net / Oracle / Access / MS SQLSERVER / LINQ / CSS / jQuery / jQuery AJAX /ASP.Net AJAX / JSON and ArcGIS (Server, SDE and Desktop), designed overall platform for web based GIS map and data publishing mechanism. And then it was used in a geological hazard management system.
  The main function includes: PC tablet based application for hazard GPS and related hazard data collection. Data uploading and downloading between web server and PC tablet application, Site risk scoring matrix and site investigation schedules.

Bug Tracker
LIAONING TRIEXCEL CO., LTD.
Core Participant
Apr. 2009 - Dec. 2009
- Using the techniques of ASP.Net/ AJAX/ MS SQLSERVER/ CSS and JavaScript to develop an issue tracker which helps developers to manage their projects, collaborate with teammates and clients effectively.

Terminal Monitoring System of Bank of Anshan
LIAONING TRIEXCEL CO., LTD.
Core Participant
Oct. 2008 - Mar. 2009
- Using the techniques of ASP.Net/ AJAX/ MS SQLSERVER / CSS / JavaScript / video conversion and Bing Map to develop a monitoring System for Bank of Anshan, including the functions :
- Monitoring System provides information about the status of the terminal and its modules.
- Control System manages remotely the terminal software, loads files of the information, and advertising, and resets or shuts down the terminal's computer.
- Video Monitoring System provides remotely checking and downloading surveillance videos from terminals.

Enterprise Management Software
LIAONING TRIEXCEL CO., LTD.
Core Participant
Jul. 2008 - Jan. 2009
- Using the techniques of ASP.Net/ AJAX/ MS SQLSERVER/ CSS and JavaScript to realize the daily management of company personnel, including the functions of attendance checking, official or personal leaves, purchase process and cost control.

Teaching Experience

Artificial intelligence
TEACHING ASSISTANT
CS 670
Jan. 2017 - Dec. 2017

Jan. 2019 - Jun. 2019

Big data analysis
TEACHING ASSISTANT
CS 697
Jan. 2018 - Jun. 2018

Publication

Mitigating Class-Boundary Label Uncertainty to Reduce Both Model Bias and Variance

Matthew Almeida, Yong Zhuang, Wei Ding, Scott Crouter, and Ping Chen

ACM Transactions on Knowledge Discovery from Data, 2019

Galaxy: Towards Scalable and Interpretable Explanation on High-dimensional and Spatio-Temporal Correlated Climate Data

Yong Zhuang, David Small, Xin Shu, Kui Yu, Shafiqul Islam, and Wei Ding

IEEE International Conference on Big Knowledge, November 2018

Crime Hot Spot Forecasting: A Recurrent model with Spatial and Temporal Information

Yong Zhuang, Matthew Almeida, Melissa Morabito, and Wei Ding

IEEE International Conference on Big Knowledge, August 2017

Long-lead prediction of extreme precipitation cluster via a spatio-temporal convolutional neural network

Yong Zhuang and Wei Ding

CI 2016. NCAR Technical Note NCAR/TN-529+PROC, Sept 2016

pp. 128

An evaluation of big data analytics in feature selection for long-lead extreme floods forecasting

Yong Zhuang, Kui Yu, Dawei Wang, and Wei Ding

IEEE 13th International Conference on Networking, Sensing, and Control (ICNSC)

pp. 1-6

Review

Journal Review

2017,	IEEE Transactions on Knowledge and Data Engineering	*TKDE*
2018, 2019,	ACM Transactions on Knowledge Discovery from Data	*TKDD*
2019, 2020,	IEEE Transactions on Neural Networks and Learning Systems	*TNNLS*
2015, 2016, 2017,	Knowledge and Information Systems	*KAIS*
2017,	International Journal of Information Technology and Decision Making	*IJITDM*
2017,	Journal of Ambient Intelligence and Smart Environments	*JAISE*
2017,	Spatial Algorithms and Systems	*TSAS*

Conference Review

2015,	International Conference on Machine Learning	*ICML*
2016, 2017, 2018, 2019, 2020,2021,	Knowledge Discovery and Data Mining	*KDD*
2016, 2021,	American Association for Artificial Intelligence	*AAAI*
2016, 2017, 2018,	The IEEE International Conference on Data Mining series	*ICDM*
2019, 2020,	ACM International Conference on Information and Knowledge Management	*CIKM*
2016, 2018,	Pacific Asia Conference on Knowledge Discovery and Data Mining	*PAKDD*
2016, 2017,	European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases	*ECML-PKDD*
2016,	The ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems	*ACM SIGSPATIAL*
2016,	International Conference on Networking, Sensing and Control	*ICNSC*
2016,	International Workshop on Climate Informatics	*CI*

Extracurricular Activity

Microsoft's AI for Earth summit

Redmond, WA

Member

October 2018

- The AI for Earth Hackathon and Education summit.
- Web page: https://www.microsoft.com/en-us/ai-for-earth/

The Eighth Annual "Science Engineering Technology in the CITY" *Boston, MA*

- Showed two interesting demos, "Image Printing" (a program that let computer draw a image by the given image) and "Style Transferring" (a program that can transfer a photo to a painting), to explain what a convolutional neural network is and how it can be implemented in the real world to high school students
- Facebook page: https://www.facebook.com/bostonareagirlsSTEM/
- Web page: http://www.bostongirlsstem.org/setinthecity/index.html/

Tech Savvy 2016, 2017 *Boston, MA*

CORE MEMBER & INSTRUCTOR AT 2016 *July 2016, 2017*

- Worked with Boston University, Harvard, MIT, etc. to organize a one-week Tech-Savvy camp to prompt STEM education among Boston intermediate school students.
- Organized interactive games and talks to show these intermediate school girls what other people find valuable in the field of CS so they can have an accurate picture of what the field is.
- Facebook page: https://www.facebook.com/bostonareagirlsSTEM/
- Web page: http://www.bostongirlsstem.org/techsavvy/index.html/

Honors & Awards

FELLOWSHIPS

| 2016-2018 | Oracle Doctoral Research Fellowship | *Computer Science* |
| 2019 | The Randall Gates Malbone Fellowship in Mathematics and Computer Science | *Computer Science* |