

Yong Zhuang

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Profile

- Highly accomplished, skilled, and knowledgeable computer science PhD with 8+ years of software development experience and 7+ years applied machine learning experience. Proven success in building machine learning algorithms and predictive models for different industries. Highly adept at feature selection, time series forecasting, Spatio-temporal data analysis, and visualization. passionate about solving real-world computational problems.

Skills

- Language:** Python, Java, ASP.NET, C#, PHP, JavaScript
- ML Packages:** Tensorflow, Keras, Pytorch, Matplotlib, Pandas, Numpy, scikit-learn, seaborn
- Database:** Oracle, Access, Microsoft SQL Server, MySQL
- ArcGIS:** Map, Server, SDE and Desktop
- Advanced skills** 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 network application design, program structure design and guidance of junior staffs.

Liaoning Triexcel Co., Ltd.

Anshan, Liaoning, China

SOFTWARE ENGINEER

Mar. 2008 - Apr. 2011

- Responsible for multiple projects related to computer engineering. Participated in the design of several large-scale projects, which extensively broadened professional experience.

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

Research and Project Experience

Deep Symbolic Regression

Project Lead

UNIVERSITY OF MASSACHUSETTS BOSTON

Jan. 2020 - Present

- Recovering mathematical expressions from data via deep learning.

Long-term prediction of chaotic systems via machine learning

UNIVERSITY OF MASSACHUSETTS BOSTON

Project Lead

Jan. 2019 - Dec. 2019

Interpretable Spatio-Temporal Modeling

UNIVERSITY OF MASSACHUSETTS BOSTON

Project Lead

Jan. 2018 - Dec. 2018

- Identify the main sub-feature sets with predictive ability and interpretability from the original feature space via causal analysis.

Real-Time Crime Forecasting

UNIVERSITY OF MASSACHUSETTS BOSTON

Project Lead

Jan. 2017 - Nov. 2017

- Develop an LSTM network for advanced place-based crime forecasting through the use of data from one police jurisdiction.

Long-lead Precipitation Forecasting

UNIVERSITY OF MASSACHUSETTS BOSTON

Project Lead

Jan. 2016 - Dec. 2016

- 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.

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

- An after-sales service management software to rationalize the after-sale service process and Increase efficiency and customer satisfaction.

GIS-based Hazard Management System

LIAONING TRIEXCEL CO., LTD.

Project Lead

Feb. 2009 - May. 2012

- A GIS-based geological hazard management platform includes client and server systems for data collection, data synchronism, risk scoring, and investigation planning.

Bug Tracker

LIAONING TRIEXCEL CO., LTD.

Core Participant

Apr. 2009 - Dec. 2009

- A project and issue tracking software.

Terminal Monitoring System of Bank of Anshan

LIAONING TRIEXCEL CO., LTD.

Core Participant

Oct. 2008 - Mar. 2009

- A remote solution designed to provide secure web remote control and system update services for terminals of Bank of Anshan.

Enterprise Management Software

LIAONING TRIEXCEL CO., LTD.

Core Participant

Jul. 2008 - Jan. 2009

- Employee management and office collaboration suite.

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

ACM TRANSACTIONS ON KNOWLEDGE DISCOVERY FROM DATA, 2019

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

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

IEEE INTERNATIONAL CONFERENCE ON BIG KNOWLEDGE, NOVEMBER 2018

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

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

IEEE INTERNATIONAL CONFERENCE ON BIG KNOWLEDGE, AUGUST 2017

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

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

CI 2016. NCAR TECHNICAL NOTE NCAR/TN-529+PROC, SEPT 2016

Yong Zhuang and Wei Ding

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

IEEE 13TH INTERNATIONAL CONFERENCE ON NETWORKING, SENSING, AND CONTROL (ICNSC)

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

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Extracurricular Activity

Microsoft's AI for Earth summit

MEMBER

Redmond, WA

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"

MEMBER

Boston, MA

April 2016

- Use two interesting demonstrations, "Image Printing" (a program that allows computers to copy paintings) and "Style Transfer" (a program that can convert photos into paintings), to explain what a convolutional neural network is and how to implement it by python.
- Facebook page: <https://www.facebook.com/bostonareagirlsSTEM/>
- Web page: <http://www.bostongirlsstem.org/setinthecity/index.html/>

Tech Savvy 2016, 2017

CORE MEMBER & INSTRUCTOR AT 2016

Boston, MA

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**, Oracle Education Foundation

2019 **The Randall Gates Malbone Fellowship in Mathematics and Computer Science**, UMASS Boston

2019 **Graduate Research Internship Program**, National Science Foundation (NSF)