

# Jianwei Zheng Ph.D., MBA

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## 🎓 EDUCATION

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- ◇ Chapman University  
Ph.D. of Computational and Data Science
- ◇ DongBei University of Finance and Economics  
Master of MBA
- ◇ DongBei University of Finance and Economics  
Bachelor of Computer Science

- 📍 Orange, CA, USA  
📅 Feb 2015-May 2021
- 📍 Dalian, Liaoning, China  
📅 Sep 2007-Jul 2011
- 📍 Dalian, Liaoning, China  
📅 Sep 1997-Jul 2001

## 👤 PROFESSIONAL SUMMARY

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- ◇ 6+ years of the machine learning enterprise level practice and 17+ years of experience in software research and development.
- ◇ Dedicated to research interests in Data Science, Statistics, Machine Learning, Parallel Computation, and Digital Signal Processing.

## 📖 TEACHING EXPERIENCE

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- **Chapman University**  
*Research Fellow*
  - ◇ Taught MATH 203: Introduction to Statistics for six semesters
  - ◇ Taught Computational Sciences 770: Big Data Analysis








- 📍 Orange, CA, USA  
📅 Aug 2018 – Now

## 📖 PUBLICATIONS

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### Published:

- ◇ Zheng, J., Chu, H., Struppa, D. et al. Optimal Multi-Stage Arrhythmia Classification Approach. Sci Rep 10, 2898 (2020). (Nature Publishing Group, Impact Factor 4.3) <https://rdcu.be/b1UnD> 📅 Feb 2020
- ◇ Zheng, J., Zhang, J., Danioko, S. et al. A 12-lead electrocardiogram database for arrhythmia research covering more than 10,000 patients. Sci Data 7, 48 (2020). (Nature Publishing Group, Impact Factor 5.5) <https://rdcu.be/b1Akt> 📅 Feb 2020
- ◇ Zheng, J., Fu, G., Chu, H. et al. A 12-Lead ECG database to identify origins of idiopathic ventricular arrhythmia containing 334 patients. Sci Data 7, 98 (2020). (Nature Publishing Group, Impact Factor 5.5) <https://rdcu.be/b3bId> 📅 Feb 2020
- ◇ Zheng, J., Fu, G., Chu, H. and Rakovski, C. A High Precision Machine Learning Algorithm to Classify Left and Right Outflow Tract Ventricular Tachycardia, Front. Physiol., (2021) (Frontiers Publishing Group, Impact Factor 4.5) doi: 10.3389/fphys.2021.641066 📅 Jan 2021
- ◇ Zheng, J., and Rakovski, C. On the Application of Principal Component Analysis to Classification Problems, Data Science Journal 📅 Jun 2021
- ◇ Louis, E., Zheng, J., et al. A super learner ensemble of 14 statistical learning models for predicting COVID-19 severity among patients with cardiovascular conditions, Intelligence-Based Medicine, 5, (2021) doi: <https://doi.org/10.1016/j.ibmed.2021.100030> 📅 Feb 2021

- ◇ Anderson, K., Sparks, L., Zheng, J. and Rakovski, C. Identifying behavioral differences between people with and without previous cancer diagnosis, Cogent Social Sciences 6, 2331-1886 (2020)  
<https://doi.org/10.1080/23311886.2020.1728950>  Feb 2020
- ◇ Zheng, J., Chu, H., and Rakovski, C. et al. High Precision Artificial Intelligence-Enabled ECG Algorithm for Predicting Sites of Idiopathic Ventricular Arrhythmia Origin, European Heart Journal, Volume 42, October (2021) (Oxford Academic, Impact Factor 29) <https://doi.org/10.1093/eurheartj/ehab724.0303>  October 2021
- ◇ Arin, G., Zheng, J., Chu, H., and Rakovski, C. et al. Increased Risks of Re-identification For Patients Posed by Deep Learning-Based ECG Identification Algorithms, the 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society  Jul 2021
- ◇ Zheng, J., Fu, G., Chu, H. and Rakovski, C. A High Precision Machine Learning-Enabled System for Predicting Idiopathic Ventricular Arrhythmia Origins, Front. Cardiovasc. Med., (2022) (Frontiers Publishing Group, Impact Factor 6.0) doi: 10.3389/fcvm.2022.809027  Mar 2022
- ◇ Dnioko, S., Zheng, J. and Rakovski, C. A Novel Correction for the Adjusted Box-Pierce Test, Front. Appl. Math. Stat., (2022) doi: <https://doi.org/10.3389/fams.2022.873746>  May 2022
- ◇ Arin, G., Zheng, J., Chu, H., and Rakovski, C. et al. Assessing the Reidentification Risks Posed by Deep Learning Algorithms Applied to ECG Data, IEEE Access, (2022) (Impact Factor 3.3) doi: <https://doi.org/10.3389/fams.2022.873746>  May 2022
- ◇ Zheng, J., Abudayyeh, I., Mladenov, G. and Rakovski, C. et al. An artificial intelligence-based noninvasive solution to estimate pulmonary artery pressure, (2022) (Impact Factor 6.0) doi: <https://doi.org/10.3389/fcvm.2022.855356>  May 2022





## GRANTS

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- ◇ Co-Investigator. A Novel, High Precision, Comprehensive Analytical and Computational Algorithm for Automated Classification of Arrhythmia Types. Kay Family Foundation Data Analytics Grant  Jun 2017-May 2019
- ◇ Co-Investigator. A 12 Lead ECG Database for Automated Classification of Arrhythmia including Atrial Fibrillation. 2018 Shaoxing Medical and Hygiene Research Grant, ID 2018C30070.  Jan 2018-Dec 2020
- ◇ Co-Investigator. Using Artificial Intelligence to Identify Origins of Ventricular Arrhythmia for Catheter Ablation Therapy. 2019 Zhengjiang Fundamental Public Research Grant, ID LGJ20H020001  Jan 2020-Dec 2022

## PRESENTATIONS

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- ◇ Arrhythmia Classification by Multinomial Logistic Regression. AIMed Artificial Intelligence in Medicine, Dana Point, California  Dec 12-15, 2016
- ◇ A Novel Approach to EKG Analysis using First Order Threshold Auto Regressive Models. AIMed Artificial Intelligence in Medicine, Dana Point, California  Dec 12-15, 2017
- ◇ Experiences Using Python for Statistical Computing. ASA (OCBLASA) Quarterly conference, Orange, California  Sep 14-14, 2018
- ◇ Accuracy Comparison of Arrhythmia Classification Paradigm. ASA (OCBLASA) Quarterly conference, Orange, California  Apr 4-4, 2019
- ◇ Optimal Multi-Stage Arrhythmia Classification Approach.

CHOC Children's Hospital MI3 Journal Club Meeting, Orange, California

📅 Mar 9-9,2020

◇ AI-enabled application in AF prediction and AF treatment.

Research and Applications of AI for Cardiac Disease Conference, Orange, California

📅 Jan 19,2021

◇ High precision machine learning-enabled ECG algorithm for predicting sites of idiopathic ventricular arrhythmia origin.

ESC Congress 2021, Online

📅 August 27,2021

## ⚙️ PROFESSIONAL EXPERIENCE

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### • Chapman University

📍 Orange, CA, USA

*Presidential Postdoc Research Fellow*

📅 Jul 2021 – Now

◇ Published two articles on ESC congress 2021 and IEEE EMBC 2021 conference

### • Schneider Electric

📍 Lake Forest, CA, USA

*Data Science Consultant*

📅 Feb 2020 – Sep 2020

◇ Delivered a state of the art deep learning model for predicting critical events that adversely impact industrial automation control system

◇ Provided a feature extraction design for multivariate time series data and a multi-prospective model interpretation to meet industrial level safety demand

◇ Designed a data processing production pipeline consuming the data at the petabytes level

◇ Offered a series of workshop to introduce statistical machine learning and AI for different level audience

### • Shaoxing Hospital Zhejiang University School of Medicine

📍 Shaoxing, Zhejiang, China

*Data Science Consultant*

📅 Mar 2016 – Mar 2018

◇ Published two articles on Nature publishing group journals

◇ Deployed a machine learning product for arrhythmia classification in clinical grade accuracy

◇ Secured one grant for AI research in ECG analysis

### • Ningbo First Hospital of Zhejiang University

📍 Ningbo, Zhejiang, China

*Data Science Consultant*

📅 May 2018 – May 2020

◇ Published two articles on Nature publishing group journal and Frontiers publishing group journal

◇ Delivered an AI-enabled ECG algorithm for predicting the origin sites of ventricular arrhythmia into electrical physiology lab

◇ Achieved one grant for a pioneering study to optimize catheter ablation index for atrial fibrillation treatment

### • Schneider Electric

📍 Lake Forest, CA, USA

*Global Customer Support Manager*

📅 Mar 2013 – May 2018

◇ Delivered reliable elite level technical consulting services, including software product technical support, on-site solution support, and proactive system health monitoring service to global premium customers

◇ Sustained the overall customer satisfaction rate over 95% for five years

◇ Fixed enormous of critical anomalies to attract plenty of premium customers renewing elite service contracts, \$10 million per year

### • Rockwell Automation

📍 Dalian, Liaoning, China

*Global Configuration Manager*

📅 Mar 2007 – Feb 2013

- ◇ Supported software development and testing activities for a R&D group over 1,000 engineers worldwide
- ◇ Delivered a robust continuous integration best practice to release 23 software products with 9 language versions that generate over \$100 million annual revenue per year
- ◇ Developed an auto building and integration system to implement Agile SCRUM methodology for product development

- **Rockwell Automation**

📍 Dalian, Liaoning, China

📅 Apr 2003 – Mar 2007

*Senior Software Engineer*

- ◇ Dedicated to designing and developing a series of industrial automation software products, including RSLogix 5/500/5K, HMI, Historian, MES, and Iot
- ◇ Released the first generation of Cybersecurity product in hardware, firmware, and software levels

- **Dalian Yiyou Computer INC.**

📍 Dalian, Liaoning, China

📅 Sep 2001 – Apr 2003

*Software Engineer*

- ◇ Developed and designed the first generation of accounting software embedded into ERP system for the nuclear power industry

## 📊 TECHNICAL SKILLS

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- ◇ Statistical Machine Learning, Deep Learning, Statistics, Digital Signal Processing, Software Engineering, SCRUM, Systems Reliability, Firmware and Software Integration.
- ◇ Programming Languages: R, C++, Python, MATLAB, C#, SQL
- ◇ Development Tools: AWS, Spark, Docker, Hoodop, TensorFlow, Django

## 📜 PROFESSIONAL CERTIFICATIONS

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- ◇ PMP PMI Certified Project Manger
- ◇ Service Strategy Certified Support Manager
- ◇ SCRUM master
- ◇ Six Sigma Green Belt
- ◇ IBM Certified Specialist for ClearCase Administration
- ◇ IBM Certified Specialist for ClearCase Multisite Administration