JINGBO ZHANG

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EDUCATION

Sep.2018-Jul.2019 **School of Automation Science and Electrical Engineering, Beihang University (BUAA), Beijing, China**

Ph.D. in Pattern Recognition and Intelligent System
(quitted after the 1st year)

Major Courses: Artificial Intelligence Theory and Approaches, Mathematical Statistics, Matrix Theory, Pattern Recognition, Machine Learning, Information Processing.

Sep.2013-Jul.2018 **School of Aeronautic Science and Engineering, Beihang University, Beijing, China**

B.A.in Engineering Mechanics

Major Courses: Mathematical Analysis, Linear Algebra, Theoretical Mechanics, Mechanics of Materials, Engineering Thermodynamics, Probability and Statistics, Electric Engineering and Electronics, The Principles of Automatic Control.

Sep.2015-Jul.2018 **School of Economics and Management, Beihang University (Dual Degree)**

B.A.in Business Administration

PUBLICATIONS

- Yang Li, **Jing-Bo Zhang**, Wei-Gang Cui, Heng Yuan, and Hua-Liang Wei. A multiple beta wavelet-based locally regularized ultra-orthogonal forward regression algorithm for time-varying system identification with applications to EEG[J]. IEEE Transactions on Instrumentation and Measurement, 2019. ISSN 0018-9456 (The first author is my supervisor at BUAA)
- Yang Li, **Jing-Bo Zhang**, Wei-Gang Cui, Song Xu, and Qing-Lei Hu. A Fast Identification Method for Time-Varying Nonlinear Systems Based on Beta Wavelet Basis Function Expansion. CHN patent CN107967395A (Under review)
- Yang Li, Da-Xin Hao, **Jing-Bo Zhang**. An accurate time-varying Granger causality identification method based on multiwavelet basis function expansion. CHN patent CN108509933A (Under review).

RESEARCH EXPERIENCE

Sep.2019-May.2020 **Object detection and image classification using RCNN series algorithms based on MS COCO, ImageNet and Pascal VOC datasets**

- Compared the modeling ideas of RCNN, Fast-RCNN, Faster-RCNN, and Mask-RCNN, and conducted preliminary tests of the above models based on the MS-COCO 2014 and PASCAL-VOC 2007 databases.
- Tested the object detection accuracy of Faster-RCNN and Mask-RCNN with ResNet C4 and FPN (Feature Pyramid Network), and performed the object detection simulation using trained Faster-RCNN and Mask-RCNN models.
- Completed some image classification tasks at Computer Vision Center of Tencent AI Lab.

Feb.2019-Jul.2019 **Spiking Neural Networks for function connectivity analysis of hippocampal neural spikes**

- Tested an ameliorated multiwavelet-based regularized forward orthogonal regression algorithm to improve the identification performance of a time-varying nonlinear generalized Laguerre-Volterra model, which is investigated for the nonstationary connectivity in spiking neural systems.
- Completed the simulation experiment and draft paper of the algorithm.

Nov.2017-Jan.2019 **Signal processing and system identification for modeling scalp EEG data**

- Proposed a novel parametric modeling algorithm to identify time-varying nonlinear systems, where a new class of multiple beta wavelet basis function is introduced to approximate time-varying coefficients of the nonstationary system.
- Published an SCI paper and filed a patent.

PROJECT EXPERIENCE

Mar.2019-Jun.2019 **Handwritten numeral recognition using Convolutional Neural Network (Advisor: Pro. Linyan Cui)**

- Trained deep CNN model with the MNIST database of handwritten digital images.
- Binarized my own handwritten numbers and constructed a novel data set.
- Tested the trained model with those processed images (Accuracy: 85%).

Oct.2016-Nov.2017 **Designer of AERO formula racing team at BUAA (Advisor: Dr. Haiying Lin)**

- Designed the rear wing of the formula car based on CAD and CATIA.
- Simulated the flow field of the racing model with XFLOW to modify the design.
- My design was praised by my teammates and retained in the next year's model.

Mar.2017-May.2017 **Participating in the creative design competition of aircraft (Advisor: Pro. Hu Liu)**

- Assigned and coordinated the work of teammates as the group leader.
- Summarized all the working results of my group and participated in the report defense.
- Affirmed by the panels of experts and won the second place.

Aug.2016-Jan.2017 **Designing and manufacturing a wireless charging quadrotor UAV (Advisor: Pro. Yuli Chen)**

- The idea of wireless charging UAV was inspired by wireless charging mobile phones.
- Received 8,000 yuan of 'Bee Fund' support from School of Aeronautic Science and Engineering. Realized the wireless charging function but failed to improve the charging efficiency.

SCHOLARSHIPS & HONORS

2018	Outstanding Graduate Thesis Award	
2017	National Encouragement Scholarship	(Awarded to Top 5% students)
2017	Outstanding Academic Performance Scholarship	
2016, 2017	Scholarship for Excellent Social Work	
2016, 2017	Excellent Student-Cadre at BUAA	
2017	Model Student of Academic Records at BUAA	(Awarded to Top 3% students)
2017	Honorable Mention in the Zhou Peiyuan Mechanics Competition for College Students	
2017	Honorable Mention in Interdisciplinary Contest in Modeling	

EXTRA-CURRICULAR ACTIVITIES

Nov.2019-Now **Internship of Computer Vision Center of Tencent AI Lab**

- Tested image classification algorithm based on Deep Neural Network.
- Completed some image classification tasks.

Sep.2018 **Volunteer service for the 2018 Beijing Marathon**

- Prepared pre-match items for participating athletes.
- Provided guidance services for athletes.

Sep.2015-Jun.2018 **Monitor**

- Hosted most class meetings and organized the departmental evenings.
- Responsible for coordinating the work among the class committees.
- Moreover, I served as a bridge between students and teachers.

Sep.2015-Jul.2017 **President of Fenghua Club at BUAA**

- Organized some public welfare book-sending activities and social practice activities.
- Hosted a series of appreciation activities for Chinese classical literature.

Jul.2014-Aug.2014 **Supporting the education in poverty-stricken areas**

- Taught mathematics without any compensation for primary school students in Yunnan mountainous area.
- Fundraised for the primary school where I was teaching.

SKILLS

Foreign Language: English (IELTS 6.5), French (1.5 years of full French class experience)

Programming Language: MATLAB (Fluent), Python (Fluent), C (Basic)