

Tianle Zhang *June 19, 1995*

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Research Aims:

I have enrolled in a PhD program in Computer Science and my PhD research aims are threefold:

- 1) My research lies on *explainable verification systems* on a statistical insight to evaluate global robustness of Deep Neural Networks under uncertainties with provable guarantees.
- 2) My research focuses on evaluation for safety and global robustness related to *adversarial example generation*.
- 3) My research aim is concerned with *improving robustness and safety* to input perturbations for safety-critical applications.

Education Background

- University of Exeter
College of Engineering, Mathematics & Physical Sciences
Doctor of Philosophy in Computer Science
– *Supervisor:* Dr. Wenjie Ruan
EXETER, UK
October 2021 – now
- Central South University
Project 985 and 211, THE 2021 Top 13 China university and ARWU 2020 Top 150 university worldwide
School of Mathematics & Statistics
Master of Research in Statistics (GPA 3.8/4.0)
– *Supervisor:* Prof. Muzhou Hou
– *Thesis:* Signal Recognition and Prediction Based on Feedforward Neural Network Algorithm.
CHANGSHA, CHINA
Sep 2017 – June 2020
- University of Central Florida
School of Science
Visiting scholar
– Visiting research group led by Prof. Xin Li
ORLANDO, AMERICA
Oct 2019 – Dec 2019
- Central South University
School of Mathematics & Statistics
Bachelor in Information & Computing Science
CHANGSHA, CHINA
Sep 2013 – June 2017

Awards and Honors

- Outstanding Graduate Student of Central South University
Top 5% of all graduate students from Central South University
June 2020
- National Scholarship for Postgraduate Students, Central South University (~ £2300)
7 students awarded per year among nearly 250 postgraduates in the school
Nov 2019

Publications

Highlights: [H-Index = 6, Citation = 155, <https://scholar.google.com.au/citations?user=YViECiUAAAAJ&hl=en>]

• Refereed Journal Articles

- [9] C. Deng, H. Hu, **T. Zhang**, and J. Chen, Rock slope stability analysis and charts based on hybrid online sequential extreme learning machine model, *Earth Science Informatics*, 13, pp. 729–746, 2020.
- [8] Y. Chen, X. Xie, **T. Zhang**, J. Bai, and M. Hou, A deep residual compensation extreme learning machine and applications, *Journal of Forecasting*, 39, pp. 986–999, 2020.
- [7] **T. Zhang**, M. Hou, T. Zhou, Z. Liu, W. Cheng, and Y. Cheng, Land-use classification via ensemble dropout information discriminative extreme learning machine based on deep convolution feature, *Computer Science and Information Systems*, 17, No.2, pp. 427–443, 2020.
- [6] Y. Yang, M. Hou, H. Sun, **T. Zhang**, F. Weng, and J. Luo, Neural network algorithm based on Legendre improved extreme learning machine for solving elliptic partial differential equations, *Soft Computing*, 24, No.2, pp. 1083–1096, 2020.
- [5] H. Sun, M. Hou, Y. Yang, **T. Zhang**, F. Weng, and F. Han, Solving partial differential equation based on Bernstein neural network and extreme learning machine algorithm, *Neural Processing Letters*, 50, No.2, pp. 1153–1172, 2019.

[4] M. Hou, **T. Zhang**, F. Weng, M. Ali, N. Ansari, and Z.M. Yaseen, Global solar radiation prediction using hybrid online sequential extreme learning machine model, *Energies*, 11, No.12, pp. 3415, 2018.

[3] F. Weng, **T. Zhang**, M. Hou, and J. Luo, PM2. 5 Prediction Based on Genetic Algorithm and Regularized Extreme Learning Machine, *Computer Science and Application*, 8, No.8, pp. 1207-1216, 2018.

• Refereed Conference Papers

[2] **T. Zhang**, M. Hou, F. Weng, Y. Yang, H. Sun, *etc.*, An Online Learning Algorithm for Voice Activation Detection Based on a Pretrained Online Extreme Learning Machine, *The 2nd International Conference on Computer Science and Application Engineering (CSAE'18)*, Hohhot, China, October 22–24, 2018, .

[1] F. Weng, M. Hou, **T. Zhang**, Y. Yang, *etc.* Application of Regularized Extreme Learning Machine Based on BIC Criterion and Genetic Algorithm in Iron Ore Price Forecasting, *The 3rd International Conference on Modelling, Simulation and Applied Mathematics (MSAM'18)*, Shanghai, China, S July 22-23, 2018.

Journal/Conference Reviewer

- Invited Reviewer, Scientific Reports, 2020
- Invited Reviewer, Trends in Computer Science and Information Technology, 2020
- Invited Reviewer, Chinese Journal of Computers, 2019
- Invited Reviewer, American Journal of Physics and Applications, 2019
- External Reviewer, 28th International Conference on Machine Learning (ICML), 2021
- External Reviewer, 30th International Joint Conference on Artificial Intelligence (IJCAI), 2021
- External Reviewer, International Conference on Computer Vision (ICCV), 2021
- External Reviewer, Conference on Computer Vision and Pattern Recognition (CVPR), 2021
- External Reviewer, Conference on Computer Science and Application Engineering (CSAE), 2019, 2021
- External Reviewer, The 3rd International Conference on Biological Information and Biomedical Engineering (BIBE 2019), Hangzhou, China, July 20-22 2019

Teaching Experience

- The University of Exeter EXETER, UK
ECM2419 – Database Theory and Design Semester 1, 2021
– *Teaching Roles:* Workshop Tutor/Demonstrator and Exam Marker
- **ECM3412/ECM409 – Nature-Inspired Computation** Semester 1, 2021
– *Teaching Roles:* Workshop Tutor/Demonstrator and Exam Marker
- **COM2014 – Computational Intelligence** Semester 2, 2020
– *Teaching Roles:* Workshop Tutor/Demonstrator and Exam Marker
- **ECM2427 – Outside The Box: Computer Science Research And Applications** Semester 2, 2020
– *Teaching Roles:* Exam Marker

Skills

Coding: Python, MATLAB, R.

Natural languages: Mandarin Chinese (*mother tongue*), English (*full professional proficiency*).

Misc.: Academic research, \LaTeX typesetting and publishing.