CURRICULUM VITAE

Guangtao Zhang

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EDUCATION

South China Agricultural University **Sept 2017 - Jun 2021**

Bachelor of Pure and Applied Mathematics, Department of Mathematics, Guangzhou

- GPA: 4.1 / 5.0;
- Relevant Programing Skills: Python, C++, C, Matlab, Java

AWARDS

1. Contemporary Undergraduate Mathematical Contest in Modeling, First Prize (awarded by Guandong provine), 2020. Completed by: ***Guangtao Zhang***, *Yuhao Huang, Jiarong Xu.*

2. Mathematical Contest in Modeling (held by the US), Honorable Prize, 2020. Completed by: ***Guangtao Zhang***, *Yuhao Huang, Jiarong Xu.*

3. Contemporary Undergraduate Mathematical Contest in Modeling, National Second Prize, 2019, Completed by: ***Guangtao Zhang***, *Yuhao Huang, Jiarong Xu*.

4. "Certificate Cup" Mathematical Contest in Modeling, National Second Prize, 2019, Completed by: ***Guangtao Zhang***, *Yuhao Huang, Jiarong Xu*.

5. Mathematical Contest in Modeling, First Prize (awarded by South China Agricultural University), 2019, Completed by: ***Guangtao Zhang***, *Yuhao Huang, Jiarong Xu*.

6. National Mathematics Competition for College Students, First prize(awarded by Guangdong Province), 2019, Completed by: *Guangtao Zhang*.

7. "League Cup" undergraduate English writing competition, First Prize(awarded by Guangdong Province), 2018, Completed by: *Guangtao Zhang*.

8. National scholarship, awarded by The Ministry of Education of the People's Republic of China (MOE), 2019.

9. Dingyin's scholarship, awarded by South China Agricultural University, 2019.

10. “Academic Star” title, awarded by South China Agricultural University in the Model Leading Scheme, 2019.

11. Kaggle Data Competition "Understanding Clouds from Satellite Images", Private

Leaderboard Rank: 334/1538, 2019, Completed by: *Guangtao Zhang*.

12. Kaggle Data Competition "2019 Data Science Bowl", Private Leaderboard Rank: 653/3497, 2019, Completed by: *Guangtao Zhang*.

RESEARCH EXPERIENCE

1. Medical bone images abnormality detection based on deep neural network, National Student's Innovation Training Program. (Jun 2019 – Present)

The medical bone images abnormality detection task is a binary classification task. The rapid development of deep learning, especially the deep neural network, contributes to dramatic improvement in the task mentioned above. However, the interpretability of the neural network is so weak that it is not suitable to apply directly. So our work is to provide an insight into deep neural networks in medical tasks. Now I have finished all the experiments and the article is being written.

2. Deep learning method based on neural network for solving fluid dynamics problems. (Mar 2020 – Present)

Solving fluid dynamics problems mainly relies on experimental methods and numerical simulation. Howerver, experimental methods are difficult to simulate the physical problems in reality. Deep learning has great abilities to handle strong nonlinearity and high dimensionality. According to this idea, I cooperate with Dr. C. Chen and solve the problem in the field of ocean engineering. Our work result is satisfying and highly praised by the experts in the field. Now our article is under review.

ACADEMIC EXCHANGES

1. Research assistant in HCP Lab (Sun Yat-sen University), Guangzhou, China. (May 2019 - Sept 2019)

In 2019, I conducted research on the network architecture search(NAS) project as a research assistant in the HCP Lab. HCP Lab, located in SYSU, is one of the top labs in the field of artificial intelligence in the world. In the complete process of the project, my tutor instructed me on how to think about the questions and to carry out the project. That was the most valuable experience in my college life.

PUBLICATIONS

1. *C.Cheng,* ***G.T.Zhang****, Y.Z.Li*. Deep Learning Method based on Physical Informed Neural Network with Resnet Block for Solving fluid dynamics problems. (Still under reviewed in the Journal of Ocean Engineering, Impact Factor 2.73)

2. *X.Y.Chen, Z.B.Pan, X.Y.Ma,* ***G.T.Zhang***. Improved Gene Expression Programming in Symbolic Regression of Crowdsourcing Pricing Analysis. (Accepted in the Journal of Computer Applications), 2019, 39(S2): 45 -49.