

Chaofan Tao

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🌐 Homepage

👤 ChaofanTao

"Let us solve problems larger than ourselves!"

Research Interests

Deep Learning | Transfer Learning | Computer Vision | Unsupervised Learning | Applications

Education

University of Electronic Science and Technology of China (UESTC)

Chengdu, P.R.China

Mathematics and Physics Basic Science (Experimental Class, Honors College)

Sept 2016 - Present

GPA: 3.98/4.00 Avg. score: 90.31/100 Core course grades (as follows)

Mathematics: probability and statistics:94, stochastic processes:95, linear algebra:89, advanced algebra and geometry:90, calculus i:89, advanced calculus ii:91, advanced calculus iii:95, functions of complex variables: 91, mathematical modeling:90.

Computer Science: data structure:92, algorithm analysis and design:90, database fundamental:90, foundations of circuits and electronics illustrated:89, basic academic training i:98, advanced programming (C languages):86, engineering practice innovation project:98.

Physics: quantum mechanics:99, theoretical mechanics:98, electrodynamical mechanics:90, thermodynamics and statistic physics:97, atomic physics:92.

Skills

Programming: C, C++, Python, Matlab, SQL, Shell

Languages: Chinese (native), English IELTS: 7.5 (R:8.5 L:8.5 W:6.5 S:6.0)

Tools: Mathcad, Multisim, Jupyter, SPSS, Latex

Research Experience

Learning Categorical-Invariant Features for Domain Adaptation

Chengdu, P.R.China

Research Assistant with Prof. Lixin Duan, at Big Data Research Center

Nov. 2018 - Mar. 2019

- Proposed a novel method for unsupervised domain adaptation by injecting target categorical knowledge directly into the model in an adversarial fashion.
- Provided theoretical insights about why the proposed model enables fine-grained domain invariance within each category based on the relations between decision boundaries of classifiers and objective functions.
- Implemented all the experiments in the proposed method and obtained improved performance against state-of-the-art transfer learning methods.

Exploiting Mutual Relation for Visual Relationship Detection

Chengdu, P.R.China

Research Assistant with Prof. Yang Yang, at Center for Future Media

Feb. 2018 - Oct. 2018

- Co-proposed an intuitive algorithm for visual relationship detection by exploiting mutual relation in a siamese network and incorporating semantic information in the model.
- Formulated objective functions and conducted part of experiments (preprocessing, object detection et al).
- Visualized our comparable results and wrote part of the paper.

Multi-Clue based Representation Learning for Doctors Clustering

Chengdu, P.R.China

Research Assistant with Prof. Yang Yang, at Center for Future Media

Sept. 2017 - Jan. 2018

- Proposed a method to mitigate the problem of data sparsity for doctors clustering by utilizing various types of clue (e.g. rating number and comment text).
- Crawled various types of data and built an auto-encoder for discriminative representation learning.

Publications

- **Chaofan Tao**, Fengmao Lv, Lixin Duan and Min Wu. "Minimax Entropy Network: Learning Categorical-Invariant Features for Domain Adaptation" (under review), IJCAI-19 (CCF A tier).
- Yi Bin, **Chaofan Tao**, Yang Yang, Zi Huang, Jingjing Li and Heng Tao Shen. "MR-NET: Exploiting Mutual Relation for Visual Relationship Detection" , AAAI-19 (CCF A tier).

Awards and Honors

- Outstanding Student Scholarship, Year 2018
- 2nd Prize in Mathematical Contest and Interdisciplinary Contest in Modeling, Year 2018
- Recommendation Letter of Management Programme, National University of Singapore, Year 2018
- Outstanding Student Scholarship, Year 2017
- Prize for finishing National University Student Marathon League, Year 2017
- 2nd Prize in the Undergraduate Physics Knowledge Competition in Sichuan Province, Year 2017

Extracurricular Activities

- Assistant of the director of student affairs office, Yingcai Honors College
- Commissioner of student administration committee, Yingcai Honors College
- Debater of Debate Team, College of Life and Science and Technology
- Player of Basketball Team, Yingcai Honors College