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EDUCATION

Harbin Institute of Technology:

Master of Computer Science and Technology, Faculty of Computing.   **2021 - 2023**
- **Core Courses:**
    1. **Machine Learning & Algorithm:** Machine Learning Theory and Algorithm (91); Advanced Design and Analysis of Algorithm (90)
    2. **Academic Writing:** Academic Writing and Academic Norms (93.2)

Bachelor of Computer Science and Technology, Faculty of Computing & Honors School.   **2017 - 2021**
- **Ranking**: 3/50 (top 6%)
- **Core Courses:**
    1. **Mathematics:** Calculus (97); Linear Algebra and Analytic Topology (95).
    2. **Computing Theory:** Mathematical Logic (98.2); Probability Theory and Mathematical Statistics (92); Formal Languages and Automata (96)
    3. **Algorithms & Software:** Algorithmic Design and Analysis (91); Software Construction (93.7); Database Systems (93); Computer Networks (95); Data Mining (97)
    4. **Language:** English for International Communication (98.8); International Communication English (96).
    5. **Visiting-Exchange in Johns Hopkins University:** Machine Learning(A); Randomized & Big Data Algorithms(A-)

HONORS, AWARDS & SCHOLARSHIPS

- Excellent Student Cadre (2022)
- Ranking 23/1731 in 2021 Alibaba Cloud Infrastructure Supply Chain Competition (2021)
- Top Ten Outstanding Graduates of Honors School (2021)
- Outstanding Graduates of University (2021)
- The Second Prize in 2020 National Collegiate Curling Artificial Intelligence Challenge (2020)
- School Outstanding Student/Dean's List (2017-2018, 2019-2020)
- The First Prize of the people's scholarship in China (2018, 2019, 2020)
- National Encouragement Scholarship (2018, 2019, 2020)

PUBLICATIONS

- **"EEML: Ensemble Embedded Meta-learning"**
  (Accepted by WISE 2022, arxiv preprint: https://arxiv.org/abs/2206.09195)
  Geng Li, Boyuan Ren, Hongzhi Wang

- **"FL-AGCNS: Federated Learning Framework for Automatic Graph Convolutional Network Search"**
  (Under review of TKDE, after first rebuttal already, arxiv preprint: https://arxiv.org/abs/2104.04141)
  Chunnan Wang, Bozhou Chen, **Geng Li**, Hongzhi Wang

RESEARCH EXPERIENCE

Program I: ASML: Architecture-specific meta-learning based on modular states   **Start: Jan 2022**
Supervisor: Hongzhi Wang, Professor in Faculty of Computing, HIT
- Proposed a cost-controllable meta-learning algorithm for limited computing devices (GPU with thin memory).
- Designed states manager to adjust modular learning policy of deep neural network model for each training iteration.
- Conducting relative verification experiments to validate algorithm efficacy.

Program II: EEML: Ensemble Embedded Meta-learning   **Sep 2020 – Jun 2021**
Supervisor: Hongzhi Wang, Professor in Faculty of Computing, HIT
- Proposed a **meta-learning** algorithm expert in few-shot learning cases.
- Created mechanism employing gradient information embedding to represent each task dataset with few samples.
- Designed task embedding cluster, meta-train, meta-test processes to consider homogeneity and divergence between heterogeneous tasks.
- Conducted experiments to validate our algorithm enhancing basic meta-learning algorithm (MAML) performance in both regression and image classification tasks.
- Work is accepted by 2022 Web Information Systems Engineering.

Program III: Automated Graph Neural Network Search under Federated Learning Framework   Apr – Nov 2020
Supervisor: Hongzhi Wang, Professor in Faculty of Computing, HIT

- Studied federated learning, evolutionary algorithm & reinforcement learning, neural architecture search (NAS).
- Implemented main server & client evolutionary algorithm architecture search of graph neural network in the paper.
- Developed Reinforcement Learning algorithm and random sample algorithm as contrast baseline.
- Conducted ablation experiments for analyzing and supporting algorithm superiority.
- Work is under review of IEEE Transactions on Knowledge and Data Engineering (TKDE).

CERTIFICATES

- **CET6**: Total 505 | Listening 162 | Reading 191 | Writing & Translation 152
- **CET4**: Total 570 | Listening 218 | Reading 196 | Writing & Translation 156

PROJECT EXPERIENCE

- **AI4DB: Quickly responding mechanism of validating knobs efficacy for GaussDB.**   **Start: May 2022**
  Supervisor: Hongzhi Wang, Professor in Faculty of Computing, HIT

  Subject: Exploiting meta-learning mechanism to enhance model generalization with dynamically changing workload of database, with the aim of decreasing model retraining cost and improving overall knobs evaluation performance.

- **Kaggle: BirdCLEF 2022 Identify bird calls in soundscapes.**   **Feb – May 2022**
  Role: Leader of the team.

  Subject: Designed two phases (detect & classify) to identify birds species from sound segment; Applied Audio Spectrogram Transformer (AST), Vision Transformer (ViT), AlexNet, CNN-RNN network as backbone to both detect whether bird sound exists in segment and which kinds they are.

- **TIANCHI: 2021 Alibaba Cloud Infrastructure Supply Chain Competition.**   **Oct 2021 – Jan 2022**
  Role: Leader of the team.

  Subject: Propose a two components (prediction & decision) solution to help Alibaba Cloud (cloud host provider) maintain best-profits supply chain; Utilized LSTM, ARIMA, DeepAR time-sequential models to predict future demands; Designed dynamic safety stock policy to support decision.

- **Course Project: Machine Learning during Visiting-Exchange in Johns Hopkins University.**
  Subject: Reproduced classical machine learning algorithm: Logistic Regression, Decision Tree(ID3), KNN, GMM, K-means, MLP, SVM and validated efficacy on public benchmarks.

SKILLS

- **Programming Languages:** Python, Java, C.
- **Machine Learning & Deep Learning:** Pytorch, Pandas, Numpy, Learn2Learn, Scikit-learn.
- **Other Software Tools:** Latex, Linux, Git.