Yunlong Cheng

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EDUCATION

Shanghai Jiao Tong University (SJTU), Ph.D. Program　　　　　　　　　　2021/09 - Present

　Major: Computer Science and Technology, Advisor: Xiaofeng Gao, GPA: 3.77/4.0

　Research Interests: Cloud Computing, Data Mining, and Machine Learning

Shanghai Jiao Tong University (SJTU), Bachelor's Degree　　　　　　　　2017/09 - 2021/06

　Major: Computer Science and Technology

　Overall GPA: 89.67 / 100 (3.85 / 4.30), Major GPA: 89.75 / 100 (3.85 / 4.30), Rank: 28/148

PUBLICATIONS

➢ **Yunlong Cheng**, Xiuqi Huang, Zifeng Liu, Jiadong Chen, Xiaofeng Gao, Zhen Fang, Yongqiang Yang, FEDGE: An Interference-Aware QoS Prediction Framework for Black-Box Scenario in IaaS Clouds with Domain Generalization, The 38th International Parallel & Distributed Processing Symposium (IPDPS), San Francisco, California, May 27-31, 2024.

➢ Tianyao Shi, Yingxuan Yang, **Yunlong Cheng**, Xiaofeng Gao, Zhen Fang and Yongqiang Yang. Alioth: A Machine Learning Based Interference-Aware Performance Monitor for Multi-Tenancy Applications in Public Cloud. In 37th International Parallel and Distributed Processing Symposium (IPDPS), IEEE, St. Petersburg, Florida USA, May 15-19, 2023.

➢ **Yunlong Cheng**, Hao Zhou, Xiaofeng Gao, Jiaqi Zheng, Guihai Chen, Optimizing Incremental SDN Upgrades for Load Balancing in ISP Networks, Theoretical Computer Science (TCS), 962, p.113927, 2023.

➢ **Yunlong Cheng**, Hao Zhou, Xiaofeng Gao, Jiaqi Zheng, and Guihai Chen. Incremental SDN Deployment to Achieve Load Balance in ISP Networks. In Algorithmic Aspects in Information and Management: 16th International Conference (AAIM), Guangzhou, China, August 13–14, 278–290, 2022.

➢ Xiuqi Huang, **Yunlong Cheng**, Xiaofeng Gao, and Guihai Chen. TEALED: A Multi-Step Workload Forecasting Approach Using Time-Sensitive EMD and Auto LSTM Encoder-Decoder. In Database Systems for Advanced Applications: 27th International Conference (DASFAA), Virtual Event, April 11–14, pp. 706-713, 2022.

RESEARCH EXPERIENCES

Interference-Aware QoS Prediction for Public Cloud Service　　　　　　2021/01 – 2022/07

➢　Design an interference-aware data collection framework aimed at optimizing QoS prediction; automatically select the most important features using Stochastic Gates, an embedded feature selection method, to reduce the overhead of data collection.

➢　Propose a framework based on multi-domain Maximum Mean Discrepancy and adversarial denoising autoencoder to predict QoS degradation for black-box scenario in IaaS clouds with broad generalizability.

Workload Forecasting for System Service　　　　　　　　　　　　　　2019/10 - 2020/05

➢　Improve empirical mode decomposition method to process workload curve.

➢　Optimize workload forecasting using an Encoder-Decoder architecture and Neural Architecture Search methods.

Learning Index and Query Optimization for Database Systems　　　　　　2019/07 - 2019/09

➢　Collect and process query and insert data from database systems; propose an innovative method using Deep Deterministic Policy Gradient algorithm in reinforcement learning to dynamically predicts and constructs database indexes.

AWARDS

➢　Class B Scholarship in Shanghai Jiao Tong University (Top 10% in department, 148 people in total)　　2017 - 2018

➢　Class C Scholarship in Shanghai Jiao Tong University (Top 20% in department, 148 people in total)　　2018 - 2019

➢　Second Prize, Contemporary Undergraduate Mathematical Contest in Modeling (Top 20%)　　2018/11

➢　Second Prize, The Chinese Mathematics Competitions (Top 20%)　　2019/12

SKILLS AND HOBBIES

➢　Programming Languages: Python, C/C++, MATLAB, Lua, CUDA, OpenMP, MPI

➢　Hobbies: Table tennis, Badminton, Coffee, FPV drone, Photography