Zhuo Li

PERSONAL DETAILS

Birth: March 30th, 1999

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Interests: Pre-training, Representation Learning, Natural Language Processing, Anomaly Detection

EDUCATION

Peking University (PKU) Beijing, China

- M.S. in Computer System Architecture Sep.2020-Jun. 2023(Expected)

Beijing University of Posts and Telecommunications (BUPT) Beijing, China

- B.S. in Computer Science and Technology | Rank: **Top 7%** Sep.2016-Jun. 2020

EXPERIENCE

- **Long-sequence Understanding Through Hybrid Interactive Transformer** **Microsoft Ads** Jun.2022-Jul.2022
  a. Proposed a Transformer-based hybrid model named LongHAT, which extends the ability of long-text understanding while retaining the efficiency and accuracy of short-text understanding, thereby serving different scenarios.
  b. Currently for the task of query and Ads text relevance, the training time and memory usage of LongHAT are reduced by 38% and 30% respectively, and the AUC is increased by 1%.
- **A Characteristic-aware Unsupervised Pre-training Strategy for Time Series** **MSRA** Oct.2021-May.2022
  a. Analyzed the discrepancy of time-series distributions between pre-trained data and downstream tasks.
  b. Proposed a characteristic-aware pre-trained representation model named CAT-AD for zero-shot anomaly detection on multivariate time-series. (Submitted to CIKM 2022)
  c. Proved the effectiveness and robustness of CAT-AD through experimental results for datasets with a variety of distributions and dimensions (7 publicly available datastes and 2 Microsoft private business datasets).
- **A Novel Representation Learning Mechanism for Time Series** **MSRA** Oct.2021-May.2022
  a. Proposed a time-series representation model named EA-DC-T which combines a novel backbone architecture, namely Dilated Convolutional Transformer and evolving attention mechanism. (Submitted to PAMI 2022)
  b. Proved the effectiveness and robustness of EA-DC-T on time-series classification and regression tasks.
- **Research on Performance Improvement of a Domestic CPU** **PKU** Mar.2020-Jun.2021
  a. Comparatively studied the impact of context switching on branch prediction in multi-threaded environment.
  b. Proposed a new branch prediction strategy based on the clustering results, and verified effectiveness of new technology on context switching in Gem5 simulator.
- **A Integrated Wearable Ultrasound System for Deep Tissue Interface Monitoring** **UCSD** Apr.2019-Aug.2019
  a. Designed a wearable Ultrasound device using multiple ultrasound probes and a corresponding signal processing system based on deep learning, which could realize real-time hand-free central blood pressure measurement.
  b. Realized a signal processing system, including applying VGG16 to select the best channel, applying YOLO3 to detect the position of blood vessel, then tracking the blood vessel wall and finally calculating the curve of blood pressure.
  c. Deployed web service in Tomcat, by which mobile phones can display the blood pressure curve in real time.

SKILLS

- Programming Languages: Python, C, C++, SQL
- English: CET-6 602

AWARDS

- 2020 Beijing Excellent Undergraduate Graduation Design (Thesis) Dec. 2020
- Outstanding Bachelor Degree Thesis of Beijing University of Posts and Telecommunications in 2020 Jun.2020
- Second prize in National English Contest for College Students May. 2019
- Second Prize in Beijing Contest District in China Undergraduate Mathematical Contest in Modeling Oct. 2018