CHEN CHENG

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EDUCATIONAL BACKGROUND

ShanghaiTech University *Shanghai, China*
Bachelor of Engineering in Computer Science and Technology *Sep.2020-Jun.2024(expected)*
GPA: 3.85/4.0 | Rank: 6/246

RESEARCH INTEREST

Human and Computer Interaction, Visualization, Natural Language Processing, Artificial Intelligence

RESEARCH EXPERIENCE

ViSeer LAB | Advised by Prof. Quan Li | ShanghaiTech University *Jun.2022 - Sep.2022*

- **Formative Study for Finding User Requirements**
  A formative study was conducted to understand the problems encountered by L2 junior researchers in the academic abstract writing process.
- **Pipeline Design for Abstract Writing Training**
  An abstract writing training process was designed to facilitate main idea identification, draft writing, and writing style identification.
- **User Interface Implementation**
  ALens was built with *Vue* as a responsive web-based application to demonstrate the academic abstract writing training process.
- **Paper Writing**
  Developed most of the chapters of the paper, organized the ideas, and presented our work.

ViSeer LAB | Advised by Prof. Quan Li | ShanghaiTech University *Oct.2022 - Dec.2022*

- **Fund Position Simulation**
  Constructed regression equations for position simulation and compared three regression methods.
- **User Interface Implementation**
  Implement *FMLens*, a visual analytics system that helps scaffold the fund manager selection process.

ViSeer LAB | Advised by Prof. Quan Li | ShanghaiTech University *Nov.2022 - Mar.2023*

- **Semi-structured Interviews with Experts for Finding User Requirements**
  Three individual interviews were conducted to understand the challenges encountered when choosing and comparing heterogeneous neural networks.
- **Real-time Training of Heterogeneous Neural Networks for Comparison and Hypothesis Validation**
  OpenHGNN was deployed for HGNN training, comparison, explanation, thereby completing the process of hypothesis formation and validation based on the results.
- **Designing an Algorithm for HGNN Design Space Partition**
  A nested unsupervised decision tree algorithm was proposed to partition the design space and find the part of interest.
- **Pipeline Design**
  A pipeline was designed to find the part of interest in the NAS dataset, enable comprehensive understanding and comparative analysis of HGNNs at three distinct levels.
- **Interface Design and Implementation**
  The system is composed of two primary views - the Design Space View and the Comparison View to accomplish the task from search direction determination and hypothesis validation.

PUBLICATIONS

- **Chen Cheng**, Ziang Li, Zhenhui Peng, Quan Li. **"ALens: An Adaptive Training System for Academic Abstract Writing"**, Submitted to the ***CHI 2023*** for second-round review, recycle to ***ACM DIS 2023***
- Longfei Chen, **Chen Cheng**, Xuanwu Yue, Jason Kamkwai Wong, Yun Tian, He Wang, Xiyuan Wang, Quan Li **"FMLens: Towards Better Scaffolding the Process of Fund Manager Selection in Actively Managed Equity Fund Investments"**, Submitted to ***Vis 2023***
- **Chen Cheng**, Junlei Zhu, Yufei Zhang, Ziming Wu, Quan Li **"Searching for Optimal Heterogeneous Graph Neural Networks: A Comparative and Explainable Approach with VAC-HGNN"** Submitted to ***Vis 2023***

HONORS & AWARDS

Undergraduate Special Scholarship | ShanghaiTech University *Dec., 2022*
Undergraduate Special Scholarship | ShanghaiTech University *Dec., 2021*

COURSEWORK EXPERIENCE

Black Asset Network Visual Analytic System | Course of Data Visualization, 2^{nd} **Prize, ChinaVis 2022 Data Visualization Competition**

- Used dimensionality reduction method to identify potential assets and develop a visual analytics pipeline for confirmation.

Linear Programming Solver | Course of Numerical Optimization

- Implemented a linear programming solver using python via a two-phase approach to simplex algorithms.

Chrome Dinosaur Game in RISC-V | Course of Computer Architecture I

- Use RISC-V to implement the Chrome Dinosaur Game on Sipeed Longan Nano development board.

Meta-Path Discovery Based on Temporal Equivariant Graph | Course of Artificial Intelligence

- Added temporal information to static graph representation by GRU and used DQN to discover meta-paths.

SERVICE

Peer Reviewing ACM CHI 2023
Event Organizing 100 Enterprises on Campus

PROFESSIONAL SKILLS

Programming Languages Javascript, Html, Python, C/C++, MATLAB, RISC-V
Tools and Frameworks Vue, d3, Flask, PyTorch, DGL , Git