Zeyu Huang

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Nanjing University, Xianlin Street No.163, Qixia District, Nanjing, Jiangsu Province

Education

Nanjing University Nanjing, China

Department of Computer Science & Technology, elite program in computer science

Bachelor of Science Sept 2019 – anticipated Jun 2023

- Cumulative GPA: 3.56/4.00 or 85/100
- Scholarships:
  - Third prize of People's Scholarship, Nanjing University (2020-2021)
  - Third Prize of Top Project Scholarship, Nanjing University (2019-2020 among the 10/25)

Publication

Zhiluo Chen, Zeyu Huang, Yukang Zhou. *Predicting stock Trend using GNN*, accepted by the 2023 International Conference on Computer, Machine Learning and Artificial Intelligence (CMLAI 2023) on 22th Nov. 2022

Research Experience

A Further Study on "Learning Semantic Program Embedding With Graph Interval Neural Network"

Undergraduate's Research with professor Linzhang Wang and assistant researcher Yu Wang, Nanjing University

Jan 2022 – Present

- Proposed the extGINN framework, which introduces an inter-procedural propagation step in the original GINN learning framework, to better leverage the function calling relationship
- Extended a tool based on Java Spoon, which parses Java source code and transforms it into a json file with information extGINN model needs, including control flow graphs, intervals, function calling relations and so on

Predicting Stock Trend Using GNN Jul 2022 – Aug 2022

Advised by Prof. Pietro Lio', Dept of Computer Science and Technology, University of Cambridge

- Converted the stock price sequence into graphical data and carried out deep learning on the converted stock data in conjunction with the concept of GraphSNN
- Divided the model into two modules, with the first one converting the stock price series data into a visibility graph, and the sequence data into a graph data, and the second receiving the output of the first module and making predictions through learning and training
- The average accuracy of the models was as high as 86.94%
- Co-first-authored a paper based on the materials of this project, which was accepted by CMLAI 2023

Study on differential privacy of Language Model

Advised by assoc Prof. Jingyu Hua, Nanjing University Jun 2021 – Aug 2021

- Read and learned two papers about differential privacy and language model
- Tried to design an allocation scheme of privacy and sensitivity budgets to balance the performance and privacy loss
- Assisted the work in the group, and collected users feedback about a privacy technique

Paper: A Comparison of Different Outlier Detection Algorithms in Trajectory Data

Course research, lectured by Prof. Kai Ming Ting, School of AI, Nanjing University Feb 2022 – May 2022

- Explored and evaluated different trajectory outlier detection algorithms on small and big datasets
- Divided the existing methods into five categories, and picked out eight typical algorithms thereof for evaluation

- Provided a more comprehensive comparison and more in-depth analysis than existing papers, which would ultimately provide some guidance to practitioners in applying appropriate algorithms when dealing with specific trajectory outlier detection tasks

Project & Competition Experience

Project 1: 3D Rogue-like Shooting Game Development Sept 2021 – Dec 2021

- Participated in the 5th Creators Game Development Competition, jointly organized by NetEase Games and Nanjing University
- Mainly responsible for programming with 3D Unity, including completing the code of the bullet section, designing AI of enemy characters, designing maps, and debugging & testing
- Used Gitee to maintain and co-program the project

Project 2: Easy "C--" Compiler Development Feb 2022 – Jun 2022

- Completed lexical analysis module, syntax analysis module, semantic analysis module, inter-code transformation module, and machine language transformation module for a reduced language "C--"
- Tools used: GNU Flex, GNU Bison, IR Simulator, SPIM Simulator

Project 3: Tower Defense Game Development Sept 2021 – Jan 2022

- Developed a tower defense game in imitation of Kingdom Rush, based on C++ and Qt
- Improved the quality of the project with several design patterns

Project 4: Performing Point Goal Navigation Task Sept 2022 – Jan 2023

- The perception module was implemented by a visual encoder with images of rgbd camera as input
- The path planning module was implemented by PPO reinforcement learning algorithm
- The model is trained and tested in the Habitat simulation platform

Project 5: Establishing Online Code Analysis Web App

Advised by Prof. Ke Wang May 2022 – Aug 2022

- Learned and utilized the React framework and Spring architecture alongside HTML, CSS, and JavaScript
- Co-developed a web APP for online program analysis with the JavaScript-based React

Extracurricular Activities

- A member in the male volleyball team of department of Computer Science 2019 – 2021
- went back to my high school to make a recruitment speech on behalf of NJU Jan 2020

Technical Skills & Interests

- Programming language: C, C++, Python, C#, Coq, Java, JavaScript, HTML, CSS
- AI Related: Tensorflow, PyTorch
- Editing tools: Latex
- Interests: Piano (Royal Academy of Music Piano Grade 8), Board Games Chess, Jogging, Music