Zhensu Sun

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Research Interests

I'm a graduate student in software engineering at Tongji University, China. My research interests are to explore effective techniques in software engineering through mining software repositories. The goal of my research is improving the coding efficiency of developers with various techniques like Deep Learning (DL).

Education Background

Tongji University, Shanghai, China *Sep 2018 - Expected Mar 2021*
M.S. in Software Engineering, School of Software Engineering
GPA: 90/100
Awards: 2nd Prize at National Post-Graduate Mathematical Modeling Contest (2018)

Tongji University, Shanghai, China *Sep 2014 - Jun 2018*
B.S. in Logistic Engineering, School of Transportation Engineering
GPA: 4.2 / 5.0 (Top 3 of 28)
Awards: Summa Cum Laude

Research Experiences

- **Semantic Code Search** *Oct 2019 - Present*
  Master Thesis
  - Proposed a semantic code search model, named PSCS, with deep learning, which obtains a better understanding of code structure and outperforms state of the art.
  - Demonstrated the importance of code structure in code search tasks through ablation experiments.
- **Smart Spatial Allocation for Innovation Factors in Urban Planning** *Mar 2020 - Present*
  Research Project
  - Built a machine learning(ML) model with XGBoost to predict innovation index for cities given their statistics.
  - Combined the prediction model with optimization algorithms like Simulated Annealing to find the optimal solution for the allocation of innovation factors among several cities.
- **Requirement-based Library Recommendation** *Dec 2018 - Oct 2019*
  Research Project
  - Identified a new perspective for library recommendation: Recommend libraries given project requirement descriptions
  - Proposed a DL approach based on Seq2seq to recommend available third-party libraries, which proves the practicality of this task

Publications

- **Zhensu Sun**, Yan Liu, Ziming Cheng, Chen Yang, Pengyu Che. "Req2Lib: A Semantic Neural Model for Software Library Recommendation". Published in SANER 2020.
- **Zhensu Sun**, Yan Liu, Chen Yang, Yu Qian. "PSCS: A Path-based Neural Model for Semantic Code Search". Under Review.

Skills

- **Programming Languages**: Python, JavaScript, SQL
- **Frameworks**: Pytorch, Pandas, Numpy, Scikit-Learn, Node.js, React.js.
- **English**: IELTS: Listening: 7.5, Reading: 8.5, Writing: 6.5, Speaking: 6.0, Overall Band Score: 7.0