Zhiming Li

China University of Geosciences - Wuhan, China

unclebobhk@gmail.com https://github.com/unclebob7 https://unclebob7.codes

Education

China University of Geosciences **Wuhan, China**

- Senior undergraduate, Dept. of Communication Engineering *Sep. 2016 – Present*
- "Siguang Li" Innovative Program (**35** students selected from **4500** students in 2016)
- Overall GPA: 86.47/100

University of Michigan, Ann Arbor **Ann Arbor, USA**

- Research Intern, The University of Michigan Transportation Research Institute *Jun. 2019 – Present*
- Advisor: Prof. **Carol Flannagan**

Research & Development Experience

Adabot - Fault-Tolerant Java Decompiler

Zhiming Li*, Qing Wu*, Kun Qian*(equal contribution).

In *Proceedings of the 34th AAAI Conference on Artificial Intelligence.* **AAAI 2020.** (Student Program)

- Traditional Abstract Syntax Tree (AST) based Java decompilers are strictly rule-defined and thus highly fault intolerant when bytecode obfuscation were introduced. The contributions of this work are as follows:
- Proposed a framework based on Transformer model by viewing decompilation as a statistical machine translation task.
- Demonstrate that self-attention mechanism is more appropriate than recurrence in terms of programming language.
- Outperformed ASTs based and Recurrent Neural Networks (RNNs) based approaches by much better robustness. Specifically, the performance has achieved 92.3% and 3.48% in terms of BLEU and minimum word error rate.

Concept Growth Monitoring (ongoing)

Guide: Prof. Carol Flannagan, Umich

- For the safe deployment and sustainable development of AI, we need better understanding and interpretability, which is nontrivial for high-stake domains like traffic security and medical science. The contributions of this work are as follows:
- Discover the "growth curve" phenomenon of fully connected neural network (FCNN) in eigenvector space.
- Proposed a mechanism that constrains the direction of information flow to bypass uninformative computation.

Fancy Voice -- an ASR box

2018 iFLYTEK AI developer competition (Top **30** out of **1210** teams)

Fancy Voice is a set of applications that deeply apply Automatic Speech Recognition (ASR). It aims to collaboratively assist the disabled to use smart devices and extend the usage scenarios of ASR.

- Shortlisted as the ***semi-finalist***, standing out among powerful contestants (e.g. Baidu, Tecent).
- Two registered software copyrights.

Honors and Awards

- **National Scholarship** (Top **2** students in Communication Engineering Dept.), Ministry of Education of P.R.China. 2017.
- **iFLYTEK AI developer competition semi-finalist**, iFLYTEK Co. Ltd. 2018.

Copyrights

- AP smart ASR browser (2017SR617386), National Copyright Administration of P.R.China. 2017.
- Fancy Voice (2018SR1041935), National Copyright Administration of P.R.China. 2018.

Open Source Projects

- **Adabot - Fault-Tolerant Java Decompiler**
- **Concept Growth Monitoring**
- **Fancy Voice -- an ASR box**

Languages and Skills

- **Programming Language:** Java (proficient), Python (proficient), C++
- **TOEFL *MyBest* scores**: 109 (R28, L28, S26, W27) **GRE**: V162, Q164, AW3.5