

Zhanwei Zhang (张展玮)

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No. 1088 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong

Education

B.Sc. in Computer Science and Technology, Southern University of Science and Technology (SUSTech) Sep. 2021 ~ Now

Turing Master Class

Advisor: Yepang Liu

GPA: 3.79 / 4.0 | Weight Avg Score: 90.86 | Ranking: 34 / 189

Main courses: Introduction to Math Logic(A+), Introduction to Computer Programming(A+), Calculus(A), Linear Algebra(A), Data Structures and Algorithm Analysis(A), Principles of Database Systems(A-), Machine Learning(A), Compilers(B+)

Visiting Researcher, Wuhan University May. 2024 ~ Now

Research

Estimating Global Aviation CO2 Emissions with Comprehensive Flight Data Apr. ~ Dec. 2022

Analyze 10 TB data (1 billion records) using statistical and machine learning methods.

Submitted to Environmental Science & Technology on April 16, 2024.

LLM-Based JSON Parser Fuzzing for Bug Discovery and Behavioral Analysis Sep. 2023 ~ Jan. 2024

Use opensource LLMs such as Llama2-7B/13B to generate test cases.

13 JSON Parsers and over 100 types of cases have been tested. Over 26 behavioral diversities have been found.

Selected Projects

Othello Game through Java and Python Programming with Strong AI Oct. ~ Dec. 2021

Developed visually appealing interface and implemented Monte Carlo & Alpha Beta Pruning algorithm.

Rank: 3/29 | Win Rate: 81% (In Turing Class)

Capacitated Arc Routing Problem Solver May 2023

Implemented a memetic algorithm and hybrid metaheuristic approach to produce high-quality solutions efficiently.

Achieved optimal solutions in small and medium-sized instances within 180 seconds.

Produced comparable results with 20% deviation for larger instances with up to 255 vertices and 347 routes.

Canteen Traffic Monitoring (<https://sustech.online/canteen>) Dec. 2023 ~ Jan. 2024

Calculate the length of the queue by monitoring data, and display a chart showing the changes in queue length.

Won award for finalist in National College Students' Innovation and Entrepreneurship Training program.

About 30,000 visits within three months.

Simple Compiler Sep. 2023 ~ Jan. 2024

Developed a compiler that translates C language files into Intermediate Representation (IR) and MIPS32.

Supports essential features such as I/O operations, control flow and function calls.

Includes lexical, syntax, and semantic analysis, along with informative error messages.

Patents

Innovative Ordering Method, System, Terminal, and Medium Patent May 2023

Innovated a method and system to alleviate peak-hour traffic in cafeterias.

Applied on May 5, 2023; Application no: 202310498065

Skills

Languages: English (Fluent), Mandarin (Proficient), Cantonese (Proficient)

Programming Languages & Frameworks: Java, Python, C/C++, SQL, Spring Boot, Vue

Tools: IntelliJ IDEA, PyCharm, Visual Studio Code, Anaconda, Git

Honors & Scholarships

Bronze Medal Winner, SUSTech Cluster Competition

March 2023

Honorable Mention, Mathematical Contest in Modeling

May 2023

Finalist, National College Students' Innovation and Entrepreneurship Training program

June 2023

Third Prize, China Undergraduate Mathematical Contest in Model

September 2023