Qian ChengLiang

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Interested in: Deep Learning, LLM-Powered Auto-Agent, Music

WORK EXPERIENCE

- **Huawei Tech**   Hangzhou Research Institute
  Graduate Engineer   *July. 2020 - Sep.2021*
  Software Engineer II   *Sep.2021 - May.2023*
  Senior Software Engineer   *May.2023 - Present*

  - **LLM-Powered Autonomous Multi-Agent IDE**: Utilizing the recent advance of LLM and single-Agent architecture to provide a better programming experience, with fine-tuned models and **proper prompt**. The Agent inside IDE can solve some complicated tasks with components of **Task Planning, Memory and Tool Use**. Furthermore, multi agents with different roles collaborating with each other with proper **human-feedback**, can deal with much more complex real-world problems.
  - **Contributor of Auto-GPT**: While doing research on Autonomous-LLM, focusing on recent AI products, having a basic comprehension of their use-cases and architecture.
  - **Java-to-Scala Transpiler**: A Java-to-Scala transpiler written in Scala, aiming to translate legacy java code into usable Scala code. Pioneered the progress of the project. Based on JavaParser & Scalameta, it out-performs most of the j2s transpiler at the time.
  - **Slang**: A System-Verilog parser written in C++, which parses System-Verilog source code into a valid in-memory Syntax Tree, while generating proper diagnostics. It also exploits tricks to increase performance, including CRTP
  - **VNext**: A cross-platform, blazing fast and lightweight IDE written in Rust. Built on a Rust GUI framework - Druid, which can be compiled into WASM, it have the same behavior under many platforms. Led and built a pure hand-written Rust Text-Editor. While providing abundant features supported by popular IDEs, including syntax-highlighting, code-folding , plugin support, it also runs with high responsiveness and low memory -consumption.

EDUCATION

- **Zhejiang University (ZJU)**   Hangzhou
  Bachelor in Computer Science; Cumulative GPA: 3.85/4.00, Major GPA: 3.98/4.00   *Oct. 2016 – July. 2020*

PROGRAMMING SKILLS

- **Languages**: Rust, C++, Java, Scala, Python

- **Technologies**: Auto-GPT, LangChain, Gradio, Flutter, JVM, Text Editor implemented from scratch, Druid(GUI Framework in Rust), Vector Database

AWARDS & ACHIEVEMENTS

- **Honorable Mention, Huawei Hackathon, 2021** Subject: Memory reuse-relation of Tensor

- **Honorable Mention, In The Mathematical Contest in Modeling, 2017**

- **Zhejiang University Second-class and Third-class Student Scholarship, 2017 & 2018:** Awarded to undergraduate students who have ranked in the top 10%/15% in previous semester

- **Outstanding Engineer Of The Year Award, 2022:** Awarded by the head of the Hangzhou research Institute, to the outstanding engineer(among 1000+ engineers) for the designing and implementing a high-performance text-editor

RELEVANT COURSEWORK

- **Major coursework:** Calculus I-II, Computer Network, Computer Network, Matrix Theory, Computational Theory, Digital Integrated Circuit Design, Computer Architecture, Computer Organization and Design, Computer Network, Operating System, Compiler Theory, Software Engineering, Probability Theory, Database System, Basic and Advanced Data Structures and Algorithms, Discrete Computational Structures.

- **Minor coursework:**Communication skills towards IT, Artificial Intelligence, B/S system Software Design, Java Application, E-commerce System Architecture.

- **DeepLearning.AI & Coursera:** Machine Learning Specialization, ChatGPT Prompt Engineering for Developers, Building Systems with the ChatGPT API, LangChain for LLM Application Development, How Diffusion Models Work.

Personal Interest

- **Music:** A music fan, heavy user of Apple Music(at least 24 hours per week). Interested in Blues, Rock, Bossa-nova stuff, especially Britpop.

- **LeetCode:** LeetCode Contest Knight Badge, 3100+

- **Kaggle:** 6-th in playground-s3-e18, 14-th in playground-s3-e19