陈昱宁 (YuNing Chen)

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Education

- **South China Normal University** 2021/09 – 2025/06
  Network Engineering
  - The only undergraduate **Teaching Assistant** for Operating System Project Class (Fall 2023): Assisted in answering questions and improving the project documentation (adapted from MIT 6.S081 Lab).

Skills

- **Core Skills**
  - ***Low-Level Programming:*** Possess comprehensive understanding of both hardware and software, capable of writing CPU-friendly, cache-efficiency code.
  - ***Algorithms and Data Structures:*** Mastered the time and spatial complexity, skilled in writing efficient code.
  - ***Functional Programming:*** Confident in working with common paradigms such as FP, OOP and Imperative Programming.
  - ***Self Learning Ability:*** Proficient in Googling, asking and answering questions. Possess a fast learning pace.
  - ***Programming Languages:*** Learnt quite a few programming language with experiences in PL topics. Proficient in C/CPP, TS/JS, Go, OCaml, Rust, Assembly…
- **Soft Skills:**
  - Testing, Logging, Profiling, Debugging, Abstracting and Collaborating
  - Experienced with Git/GitHub workflow (Rebase, Cherry-Pick, etc.) and Conventional Commit.
  - Proficient in English (CET6 577), with extensive reading of English books, papers, docs and blogs.
  - Mastered Linux usage, configuration, and management. Skilled in container management with Docker.

Projects

- Telegram Bot for Memos 112 ⭐
  - A Telegram Bot for the memos project, widely used, and also contributed to the memos project itself.
- Search Obsidian in Google 30 ⭐
  - A combination of an Obsidian plugin and browser extension used to search Obsidian notes on Google.
- SysY Compiler
  - A SysY compiler written in Rust that compiles SysY language to RISC-V assembly, passing all public test cases provided by Peking University. Made it to the final of the National Compiler Competition.
- MoonBit Standard Library
  - The standard library for the MoonBit programming language, improved various data structures and algorithms and overall performances.
- More Contributions on GitHub…
- Numerous course projects that aren't suitable for public access on GitHub, including but not limited to:
  - CMU 15-213 CS:APP Labs
  - CMU 15-445 Database Labs (Bustub)
  - MIT 6.S081 OS Labs (XV6)
  - MIT 6.824 Distributed Systems Labs (Raft)
  - Stanford CS144 Networking Labs (TCP Implementation)

Experieces

- **MoonBit Programming Language Developer Intern** 2024/05 – Now
  @ International Digital Economy Academy
  - Improved the standard library for MoonBit, including high-quality random number generation, hash optimization, Iter implementation, Unicode Convertion, Json Parsing, etc.

- Enhanced the MoonBit compiler with features such as ConstFolding, AST based Trait Deriver(automatic codegen), new syntaxes, Formatter auto disambiguation and edge case fixing, Protobuf parsing, etc.
- Overall performance improved by 4%, with performance increased by more than ten times in specific cases. In most cases, the output file size decreased by 30%. The new syntaxes were widely used in the standard library and the competition held by MoonBit, gaining user recognition.

- **Turing Class, SCNU** 2021/09 – Now

  A self-motivated, unofficial discussion group covering topics like Mathematics (MIT 18.06, 18.01, 18.02), Algorithms and Data Structures (CLRS), Operating Systems (CSAPP, OSTEP), Theory of Computing (MIT 18.404), etc.

  - As an active member, organized multiple discussions and delivered several presentations.
  - Mentored freshmen in Linear Algebra, C programming, and CS 61A, enabled them ask high-quality questions.