Haoyun Qin 秦浩允

📞 +1 (267) 616-7927 ∧ +86 13817706949 | ✉ qhy@seas.upenn.edu ∧ qhy.cis@gmail.com | 🔗 haoyun-qin | ⬡ JeffersonQin

🔗 Website: haoyunqin.com | Updated on 25 March 2024

EDUCATION

University of Pennsylvania   Aug 2022 – Expected May 2025
Bachelor of Science in Engineering, Computer Science (Dean's List | GPA: 4.00 / 4.00)   *Philadelphia, PA*
Relevant Coursework: Algorithms, Computation Theory, OS, ML, DBMS, Compiler, PL Theory, Formal Methods, Architecture

RESEARCH EXPERIENCE

PennNetworks, University of Pennsylvania   Dec 2023 – Present
Research Assistant, advised by Prof. Vincent Liu and Prof. Boon Thau Loo   *Philadelphia, PA*
- Researching on Heterogeneous LLM Serving involving multi-model and jobshop scheduling

NetDB, University of Pennsylvania   Nov 2022 – Present
Research Assistant, advised by Prof. Boon Thau Loo   *Philadelphia, PA*
- Researching on formal methods for BGP network, continuing work from summer 2023   Jan 2024 – Present
- Worked on project *BFTGym*: An Interactive Playground for BFT Protocols   Dec 2023 – Jan 2024
- Worked on project *BFTBrain*: Adaptive BFT Protocols with Reinforcement Learning   Nov 2022 – Dec 2023

City University of Hong Kong & Saint Francis University   Aug 2023 – Present
Project leader & Collaborator, with Prof. Chengze Li@SFU and Prof. Hanyuan Liu@CityU   *(Remote) Hong Kong, China*
- Working on motion manga generation and creative sketch generation

ShanghaiTech University   May 2023 – Aug 2023
Visiting Scholar & Research Assistant, advised by Prof. Haoxian Chen   *Shanghai, China*
- Worked on formal methods for BGP network using SMT solvers and rewrite logic

PUBLICATIONS

Peer-reviewed Papers
- Chenyuan Wu, Mohammad Javad Amiri, Haoyun Qin, Bhavana Mehta, Ryan Marcus, Boon Thau Loo
  Towards Full Stack Adaptivity in Permissioned Blockchains   **VLDB 2024**
- Shize Che, Seongwoo Oh, Haoyun Qin, Yuhao Liu, Anthony Sigillito and Gushu Li
  Scalable Virtual Gate Extraction For Silicon Quantum Dot Devices   **DAC 2024**

Preprint & Under submission
- Haoyun Qin, Chenyuan Wu, Mohammad Javad Amiri, Ryan Marcus, Boon Thau Loo
  BFTGym: An Interactive Playground for BFT Protocols   **VLDB 2024**
- Second-author full paper of project *BFTBrain*, under submission

PROJECTS

CNN-based CJK Recoginizer | *PyTorch, Python, Gradio, C, Docker*   Apr 2023
- *First-ever* CJK (Chinese, Japanese, Korean) font recognizer and style extractor (Github 300+ Stars)
- More than 5000 TrueType / OpenType fonts supported
- Distributedly synthesized 200GB dataset of various layout and styling
- An online demo built using Gradio, hosted on Huggingface Space through Docker

Dungeon Assistant | *Python, Open3D, Java, Android*
- A *scalable* indoor localization system based on WiFi RSSI and LiDAR-based 3D reconstruction
- 3D reconstruction via overlapping sliding window, ICP registration and post closure optimization
- Full-functional data collection pipeline for both signal and point clouds
- An demo Android application for indoor localization of UPenn Engineering Quad

Ayase – A Search-based Accessibility Navigation Tool | *C# .NET, C++*
- A cool accessibility tool that can help people navigate on-screen elements using keyboard by text search
- Supports applications built from various technologies including Electron, Web, Qt, WPF, UWP, etc.

PennOS – A User-level Unix-like Operating System | *C*
- Implemented FAT16 file system, a round robin process scheduler, global and process file descriptor table
- Supports OS level locking, semaphore, redirection, pipelining along with a user-level shell implemented

AWARDS

CRA Outstanding Undergraduate Researcher Awards, Honorable Mention	Dec 2023
National Olympiad in Informatics (Provincial) in Shanghai, First Prize (2020), Second Prize (2019)	2019–2021
Regeneron International Science and Engineering Fair (ISEF), Grand 4th Prize in System Software	May 2021
High School Mathematical Contest in Modeling (HiMCM), Meritorious Award	Nov 2019

SKILLS

Programming: Python, C, Java, Rust, Swift, Go, OCaml, Coq, JavaScript, Dafny, Assembly, C#, Verilog, Maude, Clingo

Technologies: PyTorch, iOS SDK, Android SDK, Unix Programming, Linux, Arduino, Docker, Git

Language: Chinese (Mandarin, Shanghainese), English (TOEFL 110/120, ACT 34/36), Japanese (JPLT N2)