# TSANG CHEUK NAM

+852 6699 4301 ◇ Hong Kong SAR, China

[harrytsangcn@gmail.com](mailto:harrytsangcn@gmail.com) ◇ [github.com/h9419](https://github.com/h9419)

[linkedin.com/in/cheuk-nam-tsang-2997671b3](https://linkedin.com/in/cheuk-nam-tsang-2997671b3)

## SKILLS

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|---|---|
| **Languages** | CUDA, C++, OpenMP, ADSP Assembly, TypeScript, Python, Scala, C#, Bash |
| **Frameworks** | React, Redux-Saga, .NET Framework, Flutter, React Native, Node.js, Platform-IO |
| **Tools** | Git, Linux, Docker, PyTorch, CuBlas, LaTeX, Regular Expression, Mermaid Diagram |

## EMPLOYMENT HISTORY

**Software Architect** Time Medical Limited Hong Kong                                    Nov 2024 - Present

Responsibilities in this role included:
- Lead the software R&D team in exploring and integrating new technologies into existing products to increase value proposition to existing clients.
- Lead in a major refactoring effort to modernize development workflows and improve developer productivity.

Achievements in this role included:
- Reduced memory footprint of the computational process in an MRI scan by 40% and opened the possibility to apply more computationally expensive techniques in the current install base of MRI systems.
- Documented previously undefined behavior of legacy software and planned out the roadmap to rebuild the software infrastructure and improve developer efficiency.

**Software Developer** Time Medical Limited Hong Kong                        Jul 2023 - Oct 2024 (1 year 4 months)

Responsibilities in this role included:
- Research and implement image processing algorithms and medical imaging sequences for MRI machines in C++ and CUDA.
- Validate and improve the accuracy of DSP Assembly code for scientific instruments.
- Administrate and maintain a fleet of GPU-enabled virtual machines for internal services.

label Achievements in this role included:
- Identified the source of a long-standing issues with one of the scientific instrument's accuracy, and implemented a novel solution that is backward compatible while reducing the error to the level of measurement uncertainty.
- Lead the effort in finding the root cause of intermittent crashes, fixing the and reduced memory footprint of the .NET Framework application for MRI machines.
- Created internal quality assurance tools that utilizes image recognition to automatically identify problems and alert responsible parties during development.
- Lead in migrating and standardizing documentation formats of standard operating procedure, making it more searchable with updated points of contacts.

**Software Engineer** Lalamove Hong Kong                                          Jul 2022 - Jul 2023 (1 year)

Responsibilities in this role included:
- Develop new feature for and maintain the user-facing web application front-end.
- Consult with product managers during feature ideation phase to illuminate potential technical issues prior to implementation.
- Perform deployment and be on call for any abnormalities that may require swift actions to resolve issues.
- Maintain documentation and styling for a set of React components used across multiple web pages

Achievements in this role included:
- Lead the team in refactoring JavaScript to TypeScript to increase type safety and deliver features faster. Finishing 100% conversion to TypeScript in a quarter million line of code code-base without incurring delay in feature releases.
- Reducing daily web application crash rates by over 90% among users with accessibility features enabled by identifying an issue with string composition in React and fixing it using static analysis to highlight the problematic code patterns.

**Software Engineer** TURNED-E! Education Limited                Dec 2021 - Feb 2022 (3 months contract)

Responsibilities in this role included:
- Develop software and hardware for embedded systems used in STEM Education for K-12 students.

Achievements in this role included:
- Developed the complete ESP32 firmware and application for a STEM education kit that implements a WebSocket server in C++ to perform real-time data transfer to the web client and present the multi-modal data on the web client.
- Implemented a standalone IO interface in FPGA and enabled more verbose debugging of internal states during FPGA HDL development.

**Laboratory Technician** The Hong Kong University of Science and Technology    Jan 2019 - Dec 2021 (part-time)

Responsibilities in this role included:
- Maintain and upkeep the shared makerspace in HKUST.
- Educate other students on machines safety and laboratory rules.
- Advise for student and provide insight on their student initiated projects.

Achievements in this role included:
- Implemented an in-house student card access solution that authorizes and log student usage of laser cutter machine.

## EDUCATION

**BEng in Computer Science**, The Hong Kong University of Science and Technology          2018 - 2022
Honors: First Class Honor
CGA: 3.595
Major-CGA: 3.728

## AWARDS

- HKUST Hackathon 2021 semi-finalist
- HKUST CSE Big Idea Challenge 2022 1$^{st}$ Runner-up.
- HKUST Dean's list 2021-2022 Spring
- HKUST Dean's list 2018-2019 Spring