

# Keith Low

+65 8908 3135 | [keith\\_low@mymail.sutd.edu.sg](mailto:keith_low@mymail.sutd.edu.sg) | [linkedin.com/in/keith-lwk](https://www.linkedin.com/in/keith-lwk) | [github.com/keeve101](https://github.com/keeve101)

## EDUCATION

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### Singapore University of Technology and Design

Bachelor of Engineering in Computer Science and Design

Sep. 2021 – May 2025

- 4.58/5.0 GPA

## WORK EXPERIENCE

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### AI Engineer

Jan. 2024 – Jul. 2024

Hyundai Motor Group Innovation Center Singapore (HMGICS)

- Developed a novel chat message disentanglement pipeline using LLMs for efficient annotation
- Implemented a Retrieval-Augmented Generation (RAG) system for domain-specific Question-Answering (QA), including data pre-processing, vector database integration, and evaluation

### Undergraduate Teaching Assistant

Sep. 2022 – Dec. 2022

Singapore University of Technology and Design

- Crafted fundamental programming questions in Python to facilitate understanding of Computer Science concepts
- Collaborated with course instructor to provide support to students, offering one-on-one assistance and explanations

## PROJECTS

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### LLMContextViz | Python, Explanability, Visualization, User Studies

Feb. 2024 – Dec. 2024

- Investigating LLM context windows and the challenges of context overflow on model performance
- Conducting user studies to understand how users interact with LLM context windows in common use cases

### Personal LLM Chat Application | Python, C++, QLoRA

Oct. 2023 – Nov. 2023

- Developed generative AI application utilizing a finetuned LLM to perform basic personal introduction and have short conversations
- Finetuned a quantized 7B parameter large-language model using quantized LoRA finetuning approach
- Created and utilized Python bindings to C++ low-level API given by llama.cpp library to run inferences locally

### IoT Air Conditioner Controller System | Java, C, Android Studio, Arduino API

Jan. 2023 – Apr. 2023

- Worked in a team to develop an app to allow users to control their air conditioners remotely
- Utilized Java, Android Studio to develop the app with Firebase database backend, C for bridging MCU
- Awarded SUTD x Singtel Merit Award for the project

### Food Security Indicator Estimator Model | Python, NumPy, Matplotlib, Git

Sep. 2022 – Dec. 2022

- Developed a food security indicator estimator linear regression model to provide a low-cost early estimator of food security across nations based on the Global Food Security Index
- Achieved Best Project for the term's multi-disciplinary design challenge

### Image Processing for Bluetooth Thermal Printer | C, Arduino API

Jan. 2022 – Apr. 2022

- Implemented image processing algorithm to decode snapshots captured from microcontroller, conversion into dithered formats for print through Bluetooth thermal printer

## EXTRA-CURRICULAR ACTIVITIES

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### Climbers Club President

Jan. 2022 – Jan. 2023

Singapore University of Technology and Design

- Led committee planning and climbing activities, directed club-related activities in school-wide events

### Rotaract Club Member

Nov. 2021 – Aug. 2022

Singapore University of Technology and Design

- Served as an educational mentor through YEAH! program, volunteering to teach and offer free tuition to underprivileged primary school children at local community center

## SKILLS

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**Languages:** Java, Python, C/C++, SQL, JavaScript/TypeScript, HTML/CSS

**Frameworks:** React, Node.js, Vite.js, Express.js

**Tools:** Git, GitHub, VS Code, Android Studio, Agile, MongoDB

**Libraries:** pandas, NumPy, Matplotlib, ctypes, PyTorch, Transformers, PEFT