

Haolong Li

Lausanne, Vaud, Switzerland | +41 076 238 75 93 | haolongli_neko@outlook.com
<https://github.com/Tachi-67> | [linkedin.com/in/li-haolong](https://www.linkedin.com/in/li-haolong)

EDUCATION

Master of Science, Computational Science and Engineering, EPFL

June 2025

- GPA: 5.26/6.
- Keywords: **Software development, Data Science, Machine Learning.**

Bachelor of Science, Statistics, Harbin Institute of Technology

June 2022

- GPA: 90.4/100, Ranking: 2/20.
- People's scholarship: HIT grant for outstanding students, awarded to no more than 2 students.

PROJECTS

Research Intern, JARVIS, huggingface.co/aiflows/JarvisFlowModule

September 2023 – February 2024

- Designed and implemented JARVIS, a multi-layered interactive **large language model (LLM)** agent with 17 hierarchical LLMs, incorporating code execution, memory management, and memory re-utilization features.
- Enhanced agent's lifespan as constrained by token limitations 5x by structuring into planners, controllers, and executors, utilizing external memory **prompts**, and managing memory with a sliding window of LLM history.
- Developed the agent's long-term memory under the memory management mechanisms, enabling the use of past results beyond 50 messages with a track of long-term goals, by composing external memories injected into prompts.
- Orchestrated inter-module interaction of LLMs, code compilers, and the external file system by designing **prompts** for 17 LLMs with **Hydra**, and a clear **object-oriented structure**.
- Documented JARVIS for knowledge transfer by assembling a 424-line introduction with explanations of the structure, an example run, and a TODO section; and writing documentation for all 22 composing modules.

Android developer & Scrum master, Cook4Me github.com/cook4me/android

February 2023 – June 2023

- Built an Android app using **Kotlin & Jetpack Compose** to improve food experiences, contributed 132 commits & 5000+ lines of A-level maintainable code to the main branch employing **MVVM**.
- Designed **Instrumented tests** for **continuous integration** for each feature, reaching an overall test coverage of 81%, by working with the **JUnit 4 test framework**.
- Created the challenge and the event feature, by building respective data classes with relevant methods, making the features error-resilient and maintainable; and designing display screens, ViewModels, and interactions with **Firestore**.
- Integrated the chat feature, enabling users to chat, view profiles from chat, and start chats from different entries in the app, by wrapping up and integrating the external stream chat service.
- Managed and led a 6-member cross-functional team under the **Scrum** development process as the Scrum Master, and coordinated with 2 product managers toward the successful launch of the app.

Data Analyst, Route Planner github.com/Tachi-67/Route-Planner

February 2023 – June 2023

- Implemented analysis over the dataset of Switzerland's public transportation timetable (~5 million rows) to build a travel route planner, by working with **Python, PySpark, and Hadoop HDFS**.
- Completed data wrangling from preprocessed data (~250,000 rows), resulting in a station-to-station public transportation map with travel time and duration, by using **Spark RDD MapReduce** and **Spark DataFrame UDFs**.

Front-end Developer, Pokemon Data Story tachi-67.github.io/pokemon-data-story/

May 2023 – June 2023

- Motivated a 3-member team to create a data story website, establishing the project framework and coordinating tasks.
- Produced an interactive bar plot to show Pokemon abilities' frequencies by utilizing D3.js and SVG.
- Built a 3D plot of Pokemons' ability, by preprocessing Pokemon data with Python and then plotting with Plotly.

SKILLS

Languages: English, Mandarin (mother tongue).

Programming: Python (proficient), Kotlin (familiar), Java (familiar), C++ (prior experience), JavaScript (prior experience).

Technologies: PyTorch, Hydra, Apache Spark, Apache Hive, Android, Firestore, Jetpack Compose.