

Mingqi Li

mingqi.li | mingqi_li@icloud.com
GitHub: github.com/skynightgamer

Education

Maria-Theresia-Gymnasium

09/2019 – 06/2028

Gifted Education Program

Expected qualification: German University Entrance Qualification (Abitur)

Technical University of Munich

10/2025 – 07/2026

Early University Studies in Computer Science (B.Sc. Computer Science)

Winter Semester 2025/2026: EIDI, PGDP

Summer Semester 2026 (expected): EIST, FPV

Project and Work Experience

Astraeus I

12/2025 – Present

Model rocket with a custom-developed flight control system

- **Hardware:** Development of a complete flight computer featuring redundant sensors ($2 \times$ LSM6DSOX, $2 \times$ BMP388), a LiPo-based power supply with a boost converter, and a custom PCB design developed in KiCAD; modular architecture using JST connectors for reusability and structured verification
- **Navigation & Communication:** LoRa telemetry, Kalman-filter-based sensor fusion for stable state estimation despite inaccurate IMU and barometer measurements, and a GPS-assisted navigation solution running on a Raspberry Pi Pico 2
- **Recovery System:** Servo-controlled parachute deployment

TaskMinder (taskminder.de)

12/2024 – Present

Team Lead & Backend/DevOps Developer

- Web application for managing homework assignments, events, and files within a school class
- Actively used by multiple classes, with more than 80 daily active users
- Project planning, task allocation, and coordination with the school administration regarding deployment
- Independent development and operation of the backend infrastructure using Linux, PostgreSQL, Redis, Docker, and Express.js

2D Physics Engine

04/2025 – 07/2025

C++ & SFML

- Developed a real-time rigid-body simulation engine in C++, including integration of Newton's second law, impulse-based collision resolution, and configurable physical parameters such as restitution, air resistance, and gravity
- Implemented interactive runtime controls, including gravity toggling, dynamic object creation, and static obstacles, enabling real-time observation of parameter effects

Rohde & Schwarz GmbH & Co. KG

05/2024

Intern

- Company internship in electronics for information and systems technology
- Introduction to information and systems technology and execution of laboratory tests

Kanghui Technologies GmbH

07/2022 – 08/2022

Intern

- Programmed a measurement system in C and Python
- Created technical documentation in English

Competitions

Bavarian State Mathematics Competition	5 × State Winner (2021 – 2025)
German Federal Mathematics Competition	Advanced to the second round twice (2022/23, 2024/25)
German Youth Computer Science Competition	1st Prize (2025), 2nd Prize (2024)
German Federal Computer Science Competition	1st Prize – 2024 (Round 1), 3rd Prize – 2025 (Round 2)
Informatik-Biber Competition	1st Prize (2025, 2024), 2nd Prize (2026)
Náboj	4th Place in Passau / 8th Place in Germany (2026)
Mathematics Olympiad	Reached the third round multiple times (2022 – 2026)
StartUp Teens Challenge	4th Place Nationwide (2026)
IPhO & IOAA	Advanced to the second round (2025)

Skills

Embedded Systems	Raspberry Pi Pico 2, sensors, I2C, SPI, UART, sensor fusion, power management, soldering, prototyping, PCB design concepts (KiCAD)
Programming Languages	C++, Python, JavaScript/TypeScript, SQL
CAD & Manufacturing	Autodesk Fusion 360, Onshape, 3D printing, slicer software
Machine Learning & AI	XGBoost, scikit-learn, pandas
Tools	Linux, Docker, Git, CI/CD

Languages

German	Native proficiency
English	Fluent
Chinese	Native proficiency
Latin	Advanced proficiency (Großes Latinum)
French	Basic proficiency (DELF A2)

Volunteer Experience

Maria-Theresia-Gymnasium	09/2024 – Present
<i>Extracurricular Course Instructor for 3D Printing, CAD & Robotics</i>	
- Lead a weekly extracurricular 3D-printing course for students in grades 8–13 - Maintain and operate 3D printers using Klipper, Prusa, and Marlin firmware - Teach parametric CAD design using Onshape and Fusion 360 and introduce fundamental engineering design principles - Implement projects using embedded systems, including Raspberry Pi boards, sensors, motors, I2C and SPI communication, C++, Python, and MicroPython	
Bavarian Mathematics Olympiad	2024 – 2026
<i>Competition Grader</i>	
Graded submissions for the centralized state round of the Mathematics Olympiad for grades 5 and 6	

Interests

Web Development, Embedded Systems, Spaceflight, 3D Printing, CAD & Machine Learning