

# Simon Sure

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## SKILLS

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Soft-Skills: Communication, Work Ethic, Analytical Thinking, Teamwork

Programming-Languages: C, Python, C++, JavaScript, Verilog

Technologies: Docker, Linux, Git/Gerrit, ARM Fast Models, Embedded, FPGAs, GCP, SLAM

Frameworks: OpenCV, Flask, React, ROS2

## EDUCATION

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### Exchange Semester | 09/2024 - 12/2024

- Princeton University | Princeton, New Jersey, United States of America

### B.Sc. in Computer Science | 09/2022 - 02/2026

- ETH Zurich (Swiss Federal Institute of Technology) | Zurich, Switzerland
- Rolling Average Grade: 5.96/6
- Focus Courses: Algorithms, Data Structures, Systems Programming & Computer Architecture, Parallel Programming, Numerical Methods
- Other Courses: Discrete Mathematics, Probability, Linear Algebra, Calculus

### German Abitur | 2014 - 2022

- Städt. Gymnasium Thomaeum | Kempen, Germany
- Grade: 1.0 (15/15)
- Focus: Mathematics, Physics

### Foreign Language Correspondent English | 12/2018 - 02/2021

- Chamber of Industry and Commerce | Dortmund, Germany
- Translation (German↔English), Correspondence (Business Letters, Writing Memos), Oral Communication (Conversation, Telephone Conversation)

### Emergency Medical Responder | 01/2021 - 08/2022

- German Red Cross | North Rhine-Westphalia, Germany

## WORK EXPERIENCE

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### Optiver | Netherlands | Software Engineering Intern | 07/2024 - 08/2024

- Learned about trading theory and trading technology (internal training program)
- Designed systems with focus on clean code & defensive programming
- Automated reporting processed; reducing daily manual operations effort by approx. 20 min

### NVIDIA | Finland | System Software Engineering Intern | 02/2024 - 06/2024

- Pre-silicon testing with ARM Fast Models (modifications to test boot, simulation memory configuration, execution binary, test frameworks/tools interfaces, etc.) leading to a 6x pre-silicon testing speedup
- Performance debugging of Linux kernel driver (bare metal & hypervisor)
- Firmware configuration binary validation tooling

### ETH Zurich | Switzerland | Teaching Assistant for Discrete Mathematics | 09/2023 - 02/2024

- Teaching ≈ 30 students, collaboration with fellow teaching assistants, grading assignments, grading exam

### WOKO Studentische Wohngenossenschaft | Switzerland | House of Representative | 08/2022 - 02/2024

- Apartment Checks/Moves, Resident Contact Person, Handling Complaints/Requests

### Freelancer, Germany | Web & IT Services | 01/2022 - Present

- Lead administration of a Linux web server, ensuring maximum uptime & security
- Proactively manage and enhance the dynamic website, effective site management, ≈ 2,900 monthly users

## PROJECTS

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### SURE Briefing | 2024 - Present

- Create an automated daily newspaper
- Automated daily search for headlines & articles and LLM-based writing of articles
- Composition of paper as PDF, which is sent daily to signed-up users

### Field Robot | 2019 - 2023

- Developed an autonomous two-wheeled robot, addressing pesticide use and labor challenges in agriculture
- Collaborated with farmers for real-world testing and validation
- Built custom convolutional neural net for vision, odometry, navigation in crop fields & robot simulation
- Technologies: C++, Python, ROS(2), Gazebo, Vision & prioritizing efficient performance for real-time edge application

### FLIZAR, Personalized AI-Powered Exam Preparation | 05/2023 - 01/2024

- Recognized struggle of students to efficiently prepare for exams, conducting basic market research, leading the implementation, communicating with various stakeholders (students, educators, publishers)

- Initiated several pilot projects with educators (professors, teachers)
- Development Lead (LLM integration, Python backend, React frontend)

#### **FloRaWAN, Urban Flora Monitoring System | 08/2020 - 06/2022**

- Discovered impact of climate change on urban flora, developed strategy to combat risks with stakeholders (municipal authorities, local companies, residents), obtained budget and drove implementation
- Enabling simplification of plant maintenance & care by the parks department (covering 14.000 trees)
- Radio (LoRaWAN), sensor units (ESP32, C), data analysis and visualization (InfluxDB, Node-RED, Grafana)

#### **Interactive Video Production [↗](#) | 08/2021 - 06/2022**

- Realized burden for students to choose high school during the covid pandemic, initiated project, secured funding, got advanced unmanned aerial vehicle certification, planned & produced the video shooting and editing
- Implemented an interactive web experience (user chooses video flow) using Eko and React, reaching > 3.000 users

#### **Astro Pi | European Space Agency & Raspberry Pi Foundation | 04/2021**

- Comparative analysis of key environmental metrics (humidity, light exposure, ...) between earth and the ISS
- Experiment performed on the ISS as part of the Astro-Pi competition

## **EVENTS AND HACKATHONS**

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#### **Collabothon, RedHat & Commerzbank, Prague, Czechia | 10/2023**

- Fintech Hackathon Winners, project link [↗](#)

#### **ETH Tallinn | 04/2024**

- privacy & security prize, community governance prize, unique ai app prize, more bounty prizes, project link [↗](#)

#### **Code & Create, Karlsruhe, Germany | msg Systems | 06/2023**

- Hackathon Winners, project link [↗](#)

#### **European Defense Hackathon | Inflection & Entrepreneur First | 05/2024 - 06/2024**

- project link [↗](#)

#### **Digital Seeds, Germany | Huawei | 2023**

- Associated with project: FLZAR

#### **ZEISS Computer Vision Hackathon | ZEISS | 04/2024**

- project link [↗](#)

#### **Junction 2023, Helsinki, Finland | 11/2023**

- project link [↗](#)

#### **EUDIS Hackathon | EU | 05/2024-06/2024**

- project link 1 [↗](#), project link 2 [↗](#), project link 3 [↗](#)

#### **DevOps Challenge, Frankfurt, Germany | KfW | 07/2023**

- project link [↗](#)

#### **Kanban Workshop, Munich, Germany | msg Systems | 05/2023**

#### **Hackathon, Zurich, Switzerland | Optiver | 03/2023**

#### **Hackathon, Zurich, Switzerland | VIScon/ETHZ | 10/2022**

- project link [↗](#)

## **AWARDS**

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#### **Scholarship (top 0.5 %) | German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes)**

- Awarded for outstanding academic achievements and social commitment
- Seminars, workshops, study groups, ...
- Monetary study support

#### **5th Place Nationally (top 0.1 %) | National Youth Research Competition**

- Leading Youth Research Competition - showcasing independent research abilities while at school
- See: Field Robot Project

#### **Konrad Zuse Youth Award in Computer Science | Eduard-Rhein Foundation**

- Awarded as Part of the National Youth Research Competition
- See: Field Robot Project

#### **Mathematics Olympiad State Competition (top 4 %) | 2015, 2018, 2020, 2022**

- Prestigious Mathematics Competition, testing advanced problem-solving skills

#### **Scholarship | E-Fellows Talent Network**

- Professional network scholarship for career advancement
- Awarded based on academic performance and leadership potential

#### **Abitur Awards: Mathematics & Physics | 06/2022**

- Awarded for outstanding performance on Abitur (German school leaving exams)

## **VOLUNTEER EXPERIENCE**

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**Google Developer Student Club** | Lead/Organizer, Event Organization, Team Collaboration, Community Building, Mentorship & Support (mentoring and supporting students, facilitating their growth), Corporate Engagement

**VIS - ETHZ CS Student Association** | Semester Spokesperson (evaluating courses, representing students with professors)

**German Red Cross** | Paramedic (providing emergency medical services at events), Civil Protection (supporting in case of public dangers, evacuation and care during large-scale emergencies)

**Student Body President** | Communicating with Students & Faculty, Organizing Student Events, Discussing School Policies

## HOBBIES

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**Running/Fitness** | Endurance training/half-marathons

**Playing with Tech** | trying out software and hardware, setting up servers/service, learning new skills (mobile app development)

**Reading/Learning** | Reading (classical) fiction/news/non-fiction/..., online-courses

## LOCATIONS

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**Kempen, Germany** | until 2022

**Zurich, Switzerland** | 08/2022 - 02/2024

**Helsinki, Finland** | 02/2024 - 06/2024

**Netherlands, Amsterdam** | 07/2024 - 08/2024

**Princeton, USA** | 09/2024 - 12/2024