Nicolas Dickenmann

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EDUCATION

ETH Zurich Enrolled: Sep 2021 - Expected: Dec 2024
B.Sc. in Electrical Engineering and Information Technology Overall GPA: 5.5/6 (top 10%)

National University of Singapore Jan 2024 - Jun 2024
Study Abroad Overall GPA: 3.74/4

EXPERIENCE

Hybrid Rocket Student Team (ARIS) Zurich, Switzerland
Avionics Engineer, Freelance Dec 2022 – Oct 2023

- Designed and built a hybrid rocket with an autonomous guided recovery system and participated in the *European Rocketry Challenge* (Lisbon, Portugal) in the 9000m category.
- Overcame challenges in working with undocumented code of previous teams to implement sensor drivers.
- Led the sponsoring efforts and closed multiyear sponsoring deals for the avionics sub-team.

ETH Zurich Zurich, Switzerland
Teaching Assistant Aug 2022 - Dec 2022

- Instructed a class of 25+ first year students in a Digital Design course weekly for two hours.
- Fostered an open and collaborative learning environment.

VZ Depotbank Zug, Switzerland
Assistant Relationship Management Aug 2021 - Sep 2021

- Assisted over 500 clients in four weeks to transition to a new online banking platform and reduced average call time per customer by 40%.
- Collected and analyzed data on bugs and issues with the new software platform.

ETH Model United Nations Zurich, Switzerland
Board Member Head of Conferences, Volunteering Dec 2022 – Ongoing

- Elected board member in May 2024 after prior experience in the content team.
- Select delegate at the prestigious *Harvard WorldMUN* conferences in Paris 2023 and Taipei 2024.

PROJECTS

Bachelor's Thesis - A RL Approach to Optimize the Network Topology of Data Centers May 2024 - present

- Developing an architecture utilizing Monte Carlo Tree Search to generate improved network graphs of diameter 3 for data centers at the *Scalable Parallel Computing Lab* of ETH Zurich.
- Implementing the architecture from scratch using Torch and training on a GPU cluster with Slurm and Cuda.

Superresolution using Local Implicit Image Functions Sep 2023 - Dec 2023
Project Link: `https://gitlab.ethz.ch/vschuhmacher/superresolution`

- Performed domain specific training on medical datasets with quantitative cross validation tests leading to improved PSNR results at the *Computer Vision Lab* of ETH Zurich.
- Adjusted existing model to allow for single image training leading to a strong color shift but reasonable generalization.

Card Game *Bohnanza* implemented in C++ Feb 2023 - Jun 2023
Project Link: `https://gitlab.ethz.ch/ndickenmann/mr.beans-bohnanza`

- Set the requirement elicitation and the software design requirements for a first-time implemented card game.
- Led the front-end team building an advanced scheme to allow for inter-player trading with a dedicated UI from scratch.

More personal projects: `https://nicolasdickenmann.github.io/projects/`

SKILLS

- **Relevant Coursework:** Software Engineering, Computer Vision, Computer Engineering, VLSI, Embedded Systems, Computer Networks
- **Programming:** C++, Python, C, Verilog, Assembly
- **Software:** Git, VSCode, STM32CubeIDE, Slurm
- **Communication:** English, German, Spanish (limited), French (limited)
- **Awards:** Winning high school thesis at the Swiss national competition of *Schweizer Jugend forscht* in 2021, Mentorship and Scholarship by the Swiss Study Foundation (top 3% of students)