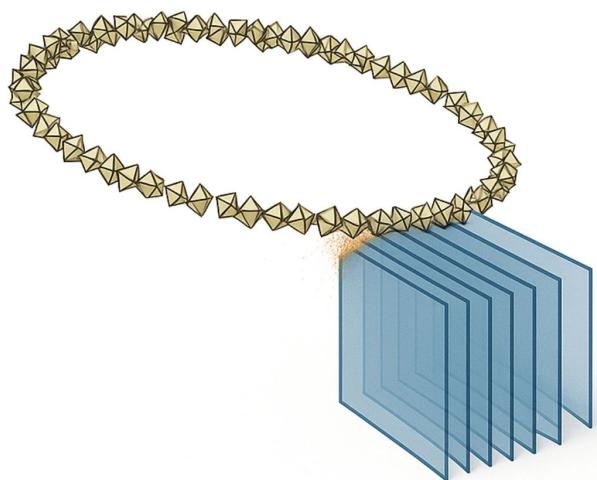
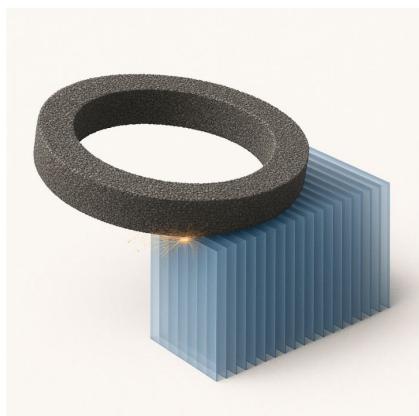


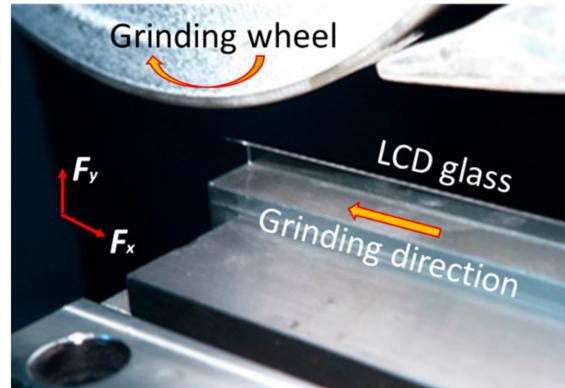
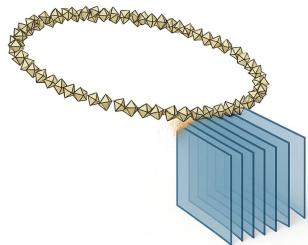
PROJECT PORTFOLIO



This is my project portfolio as software engineer and leader

Grinding Simulation Software Refactoring and Development

inspire AG, 2020-2023



Use Cases:

A software to simulate the surface profile of a workpiece following abrasive processes such as grinding or drilling. This software offers fundamental geometric simulation capabilities, enabling the simulation of a 3D profile.

Role: Software engineering trainee and later as the lead software developer and product owner

Project Size: 3.5 person-years

Feature

- Entire code base is designed in object-oriented principles using Python and C++
- 95% Test Coverages reached
- CI/CD pipeline setup on Github Actions
- Automatic Software versioning and releasing on Github
- Performant 2D geometric simulation software based on Python Shapely
- Integrated Octree algorithm to optimize collision detection algorithm
- Explored various optimization strategies in Python: PyPy, Cython, numba etc.

Sustainability Improvement for Rail Grinding through Simulation

inspire AG, 2023



ENERGY
EFFICIENCY



Innosuisse



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Federal Office of Energy SFOE

Use Cases:

The objective of this project is to minimise the energy consumption associated with grinding operations. This objective is achieved by conducting simulations to identify the most energy-efficient grinding parameters.

Role: Project leader | Project size: 120 k CHF

Feature

- Successfully acquired this project with Innosuisse funding and having the Swiss Federal Office of Energy and an industrial partner as project partners.
- Reduced the energy consumption of the grinding train by 20% using the simulation software developed by us.
- Delivered practical grinding train parameters to the industrial partner.

Test Automation Pipeline for GUI Testing

Wingtra AG, 2024



Use Case:

Automating GUI test cases by using Squish GUI software and wrote Behavioural Driven Test, using Gherkin language.

Role: QA Software Engineer | Project Size: 3 person-months

Feature

- Fully automated GUI testing pipeline, including a data dashboard
- Used Behavior-Drive-Design principles for coding the test cases
- Fully integrated into CI/CD pipeline
- Modular and reusable test cases and step functions
- Technology: Python, Squish, Jenkins, Google Cloud, Docker, C++

Innovation Challenge: InCube Challenge

ETH Entrepreneur Club, 2018, 2019, 2021



Use Case:

A four-day Design Thinking challenge that happens in a glass cube, where students innovate on real-world problems and pitch their solutions.

Role: Member of Core Team, Co-Lead on workshop contents, participants' selections and workshop facilitations

Feature

- Made the InCube challenge take place in Singapore, Boston, Zürich, Bern, and Lausanne.
- Shaped the core Design Thinking workshop content.
- Co-drafted the facilitation guidebook for workshop facilitators that's been used to date since 2019.
- Eleven teams delivered innovative solutions to their project sponsors, and one startup was born from the cube.
- Facilitated two teams in 2019 and 2021, respectively, and made lifelong friends.

Inspiring Student Lectures: Life Lessons

ETH Zürich, 2017-2018



Use Cases:

A lecture series where professors, university presidents, and industry leaders share their real-life stories about confusion, failure, struggle, success, and all the bittersweetness along the journey.

Role: president and main organiser

Feature

- Led a small team of five people and delivered six lectures to 400 students in total.
- Guest speakers include professors, researchers, a former ETH Rector, and a sports team.