



# Vincent Hilla

## Computer Science

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- vinhill.github.io
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## Languages

- German native
- English C1

## Skills

**Programming** C++, Python, JavaScript, Prolog

**Data Science** Python, Numpy, Matplotlib, Seaborn, Pandas, Networkx, Keras, Tensorflow, Scikit

**Web development** JavaScript, Node.js, Express, Angular, React, Redux, Mongoose, SQL, Jest

**Other**  $\LaTeX$ , MS Office, UML, Drivers Licence

## Education

- Computer Science M.Sc.** (current  $\emptyset$  1.0) RWTH Aachen  
Mar. 2022 – Mar. 2024 • 2 years  
Focus on machine learning and computer vision.
- Exchange Semester** Aug. 2022 – Dec. 2022 Aalto University
- Computer Science B.Sc.** ( $\emptyset$  1.1) RWTH Aachen  
Oct. 2018 – Mar. 2022 • 3 years 6 months  
Strong theoretical background and biology minor. Top 4% of class.
- Exchange Semester** Aug. 2020 – Dec. 2020 Aalto University
- Abitur / Higher Education** ( $\emptyset$  1.0) Jun. 2018 Michael-Ende-Gymnasium

## Experience

**DOM Core Student Worker** Mozilla Corporation  
Apr. 2023 – now

Advancing the #interop2023 effort for a better web by developing and maintaining HTML features in Firefox. Cooperating across institutions on web standards.

- C++
- JavaScript
- HTML

**Noise Simulation Software Project** RWTH Aachen  
Apr. 2022 – Sept. 2022 • 6 months

Optimised software for noise simulation of wind turbines by vectorizing computations and re-implementing algorithms.  
Resulted in a faster execution ( $\sim 10x$ ), fewer bugs and better code quality.

- Python
- Numpy
- Numba

**Research Assistant High-Speed-Microscopy** Fraunhofer IPT  
Mar. 2021 – Jul. 2022 • 1 year 5 months

Developed the architecture and software of a parallelised C++ library for microscope control.  
Improved the software architecture and fixed bugs, modernised the code, and implemented new features for faster scanning.  
Designed the interface, implemented a Python wrapper, and integrated new hardware components.

- C++
- OpenCV
- Python

**Bachelor Thesis** (1.0) Fraunhofer IPT  
Feb. 2021 – Oct. 2021 • 9 months

Design of a plug-in deep learning library for the "Cell Culture Analysis Tool" using the example of embryoid bodies.  
Implemented various computer vision models, preprocessing techniques, and consolidated them within a library.  
Validated the software against the semantic segmentation of cellular structures, achieving an F1-Score of 0.82.

- Python
- Keras
- OpenCV

**Tutor Formal Systems, Automata and Processes** Apr. 2020 – Sept. 2020 RWTH Aachen

## Projects

**TTTStats**  
Jul. 2021 – Mar. 2023  
Reactive single-page-application displaying statistics about a game played with some friends, see vinhill.github.io/TTTStats.

- Node.js
- Express
- Angular
- MySQL
- Jest
- JavaScript