Vincent Hilla

Computer Science

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vinhill.github.io

Bergdriesch 7,
52062 Aachen

Languages

German native

English C1

Skills

Programming C++, Python, JavaScript, Prolog, SQL, LaTeX

Machine Learning Numpy, Matplotlib, Seaborn, Keras, Tensorflow

Web Development JavaScript, Node.js, Express, Angular, Jest, HTML, Web Standards

Non-Technical Remote Working, Spec Writing, Asynchronous & Written Communication, Self Management

General Git, Phabricator, RR, GDB, Linux, Ubuntu, MS Office, Drivers Licence

Education

Computer Science M.Sc. (current ∅ 1.0) RWTH Aachen

Apr. 2022 – Jul. 2024 • 2 years 4 months

Focus on machine learning and computer vision

Exchange Semester (∅ 1.5) Aug. 2022 – Dec. 2022 Aalto University

Computer Science B.Sc. (∅ 1.1) Oct. 2018 – Mar. 2022 RWTH Aachen

Exchange Semester (∅ 1.0) Aug. 2020 – Dec. 2020 Aalto University

Abitur / Higher Education (∅ 1.0) Jun. 2018 Michael-Ende-Gymnasium

Experience

Master Thesis in Computer Vision Oct. 2023 – Jul. 2024 RWTH Aachen

DOM Core Student Worker Mozilla Corporation

Apr. 2023 – Jul. 2024 • 1 year 3 months

Open-source C++ development on Firefox and advancing web interop.
I fixed issues around HTML forms, events and text directionality, implemented web-facing features such as Screen Wake Lock API, Capability Delegation, and AbortSignal.any(). I wrote numerous web-platform-tests and contributed to web standards.

• C++ • JavaScript • HTML • Web Standards

Noise Simulation Software Project RWTH Aachen

Apr. 2022 – Sept. 2022 • 6 months

Optimized software by vectorizing computations and revising algorithm choice. Resulted in a faster execution (∼10x), fewer bugs and better code quality.

• Python • Numpy • Numba • Data Structures • Algorithms

Research Assistant High-Speed-Microscopy Fraunhofer IPT

Mar. 2021 – Jul. 2022 • 1 year 5 months

Maintained 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++ • Python • OpenCV • System Design

Bachelor Thesis (1.0) Fraunhofer IPT

Feb. 2021 – Oct. 2021 • 9 months

Created a library for data processing, model training, and evaluation, configurable by an AutoML system. Implemented various vision models, preprocessing techniques, and optimizations, utilized a pipeline architecture and YAML schema, and validated the library for semantic segmentation.
The library enabled extensive parameter variation and solved multiple use cases.

• Python • Keras • OpenCV • System Design

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

Projects

vinhill.github.io/TTTStats

Jul. 2021 – now

A web page visualising statistics about a computer game. Hosted on a Linux server with an Angular frontend and Node.js backend. Game logs are parsed to populate an SQL database.

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