

# Jan Appel

Curriculum Vitae



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|--------------------|---|----------------|--|
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| <b>Occupation</b>  | Civil service worker  |                | Switzerland  |
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## Curriculum Vitae



## Skills

### Programming & scripting languages

Very experienced with *C#, Java, Python*, and *JavaScript*. Good understanding of *HTML/XML, CSS/SCSS, PHP, GDScript, SQL (MySQL)*, and *LaTeX* and *Typst*. Some experience with *C, C++, x86 Assembly, Haskell* and *OCaml*.

### Frameworks, libraries and engines

Lots of experience with *LWJGL (OpenGL), Unity, Godot (GDScript), Flutter* and *AndroidStudio*. Solid knowledge about *Unreal Engine*, the *Arduino* platform, the *Bulma* CSS framework and *Svelte/Svelte-Kit*. Intensive use of *KryoNet, FishNet* and *Mirror*.

### Languages

My native languages are *High German* and *Swiss German*. I am fluent in *English* with an *EF C2 proficiency*, which I received after being an exchange student in *Dublin*, *~B2 level French* from school.

### Development tools

Well-experienced with *Visual Studio Code* and *Eclipse*. Some web hosting experience, especially *Node.js & Express, Nginx, XAMPP*, and *phpMyAdmin*. Good understanding of *Git, RegEx*, container and cloud deployment and the *Linux (Debian)* ecosystem.

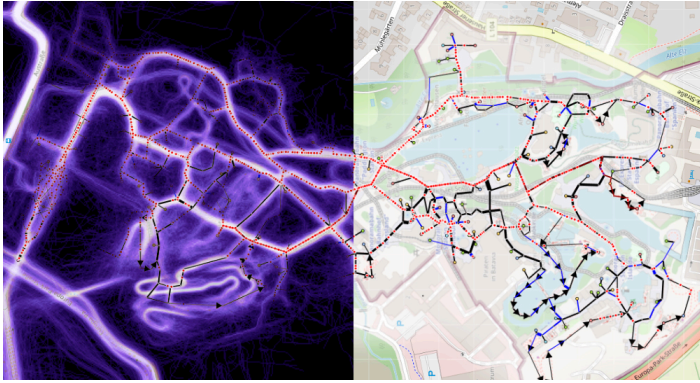
### Other tools

Very experienced with *Adobe Photoshop, Affinity Photo, Designer, Publisher, Davinci Resolve* and *Blender*. Experienced in *Adobe After Effects* and *InDesign*, the *Microsoft Office* and *LibreOffice* suites, *Notion* and *QGIS*. Lately also *ComfyUI* and *Automatic1111*.

### Soft Skills

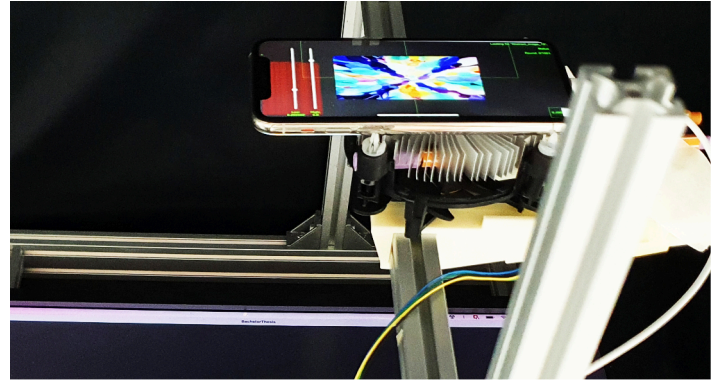
I enjoy working *with a team* or *alone*. I'm open to ideas and able to approach problems and conflicts *reasonably and rationally*. I like to do tasks well and give strong attention to *functional detail* and *aesthetic*. I can maintain *clean, structured and modular code*. Some *organisational and leadership* experience from large film projects, too.

# Notable Projects & Awards



## Bachelor Thesis: XCrowd: Real-Time Dynamic Crowd Movement Simulation on Graph Networks (2024)

The crowd simulation software I originally developed as a 5th semester project turned into my Bachelor Thesis at the *ZHAW Zürich University of Applied Sciences*. Its purpose is to connect theoretical crowd movement optimisation and real-world operations. I presented a vision paper at the *Big Mobility Data Analytics conference* at *Paestum, Italy* and the final research paper was published at the *RWTH Aachen University*. The work was presented in the *Engineers 2024* magazine and awarded the highest grade.



## Bachelor Thesis: Measuring Tracking Performance of Augmented Reality Algorithms (2022)

As my Bachelor thesis at ETH Zürich, I helped my supervisors develop *Behind the Art*, an augmented reality application for the *Liechtenstein Princely Collections*. I developed a method to measure, analyse and compare commercially available augmented reality algorithms on factors such as tracking accuracy, precision, performance and stability. Finally, I demonstrated the validity of the system using the popular AR frameworks *Vuforia* and *AR Foundation*. The work was awarded the highest grade without graduation.



## Student Project House: Project Gaia (2019)

I participated in the *Unbox Your Idea* programme at the *Student Project House* at *ETH Zürich*. We designed and prototyped a wall-hung plant pot for growing herbs and other small plants. We used a combination of tanks, servo motors, LED lights and other electronics, all powered by an *Arduino UNO*, to automatically water the plants according to parameters like soil humidity in the three available pots and provide them with light efficiently. With this, we managed to win the *Zühlke Award 2019*.



## Final Project: Traffic Simulation (2017)

This final project (Maturaarbeit) at *Kantonsschule Baden*, focused on studying the traffic throughput on the *Schulhausplatz* intersection in Baden before and after a large reconstruction. Our presented findings, covered in the Aargauer Zeitung, coincided well with official internal results by the *BVU*. As one of the best final projects in canton Aargau, we received an award for «Hervorragende Maturaarbeit» and were invited to the *Pro Argovia 2017* presentation. *Schweizer Jugend Forscht* invited us to present our work and later showed it at their final exhibition. The work was awarded the highest grade.

# Extracurricular activities

## Theater & Film

In 2016 and 2017 *Die Blaue Lunte* and in 2017 *Aristophanes: Lysistrata* and *Laura de Weck: Kleine Dialoge*, after having helped backstage for two years. Shooting short films on [visuation.ch](http://visuation.ch) for fun with friends.

## Instruments

Piano classes from 2004 to 2016 and as a hobby.

## Organisations

Part of *Jungwacht Baden* from 2005 to 2009 and helping out in the camp kitchen or as a bogeyman. Technical supervision at the *Aetherlab* association.

## Other Hobbies

Photography, short films, drawing, gaming, pen and paper RPGs and LARP with friends as well as writing.