

# Walid Chtioui

Software Engineer

Passau

Germany

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in [walid-chtioui](#)

📄 [walcht](#)

resume in German: [walcht/walid\\_chtioui\\_lebenslauf.pdf](#)

## Professional Experience

### Automotive Software Engineer

04/2023 – 04/2025 **AR-HUD Software Engineer, CARIAD - Volkswagen AG,**

C++ | Python | TS/JS | Lua | CMake | SomelP | NDS | DeckGL | Protobuf | GIS

Worked with the AR-HUD team to build tools that helped in identifying and addressing AR-HUD-related issues for Audi/Porsche car models.

- Built a highly-portable, web-based 3D visualization tool to replay and analyze dumped car data which allowed the AR-HUD team to analyze data from a multitude of sensors (GNSS, ADAS, LD, NDS-based navigation data, etc.) against global satellite imagery.
- Used said visualization tool to write PoCs which helped in identifying edge cases and writing better requirements.
- Helped AR-HUD providers by providing documented C++ usage-examples on how to efficiently use certain services/interfaces.
- Contributed to identifying and solving issues related with certain AR-HUD functionalities. E.g., Audi's global drone positioning improvements.
- Contributed to writing requirements about navigation-related functionalities.
- Contributed in identifying issues with AR-HUD providers' C++ source code base.
- Worked within a highly interdisciplinary team involving software engineers, product managers, and test engineers.

## Master Thesis

Title *Direct Volume Rendering of Large Volumetric Datasets in Immersive Environments*

Supervisors Prof. Dr. Christoph Heinzl, Alexander Gall

repo: [walcht/com.walcht.ctvisualizer](#)

## Projects

- 02/2023 – Present **NeoVim Unity IDE**, [walcht/neovim-unity](#), C# | Lua | Mono | IPC | IP Sockets | DAP | LSP  
A set of projects to provide Visual-Studio-like experience for Unity development using NeoVim on Linux and Windows (with WSL2 support) under permissive licenses (MIT). Project includes subprojects: [walcht/com.walcht.ide.neovim](#), [walcht/LSP-TCP-socket-adapter](#), and [walcht/unity-dap](#).
- 12/2024 – Present **Unity TextureSubPlugin**, [walcht/TextureSubPlugin](#), C++ | C# | CMake | Vulkan | Unity3D  
Native plugin for using low-level Vulkan API using C++ within the Unity Game Engine. Useful for circumventing Unity's Texture2D/3D 2GBs size limitation.
- 04/2024 – Present **Chunked Volumetric DataSet (CVDS)**, [walcht/cvds](#), Python | OpenCV | DICOM  
Offline CT/MRI datasets converter for out-of-core visualization of very large volumetric datasets (i.e., hundreds of GBs).

- 10/2025 – Present **Language Server Protocol TCP Socket Adapter**, [walcht/LSP-TCP-socket-adapter](https://github.com/walcht/LSP-TCP-socket-adapter),  
C# | IP Sockets | WSL2 | Github Actions  
TCP socket adapter for Language Servers (LS) that do not provide a TCP socket endpoint.
- 06/2025 – Present **IP Sockets Network Programming Guide**, [walcht/guides/unixs-sockets.html](https://walcht.github.io/guides/unixs-sockets.html),  
C | IP Sockets  
A brief guide into modern network programming using IP sockets on Linux.

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## Education

- 10/2022 – 07/2025 **M.Sc. Computer Science, University of Passau**, Passau  
Pursued a double Master's degree in Computer Science.
- 09/2020 – 07/2025 **Engineering Diploma, National School of Computer Science**, Tunis, *Top 4%*  
Relevant coursework: Software Development, Operating Systems, Software Design Methodology
- 09/2018 – 06/2020 **Preparatory Institute for Engineering Studies, Tunis, Top 7%**  
Relevant coursework: Analysis, Linear Algebra, Physics, Control Theory, Probability

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## Computer Skills

- Prog. Languages C++, Python, C#, TS/JS, C, Lua, GLSL, HLSL
- Technologies Unity3D, .NET (dotnet), Git, Protobuf, Docker, DeckGL, D3.js, Three.js
- Operating Systems Linux (Ubuntu), Android Automotive, AOSP
- Standards DICOM, AUTOSAR, NDS, C++20
- APIs Vulkan, OpenGL Core, OpenGL ES
- GUIs Qt, QML, Dear ImGui, tkinter
- Management Tools Jira, DOORS, Confluence
- Miscellaneous Blender, GIS, IP Sockets, Qemu, VirtualBox

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## Languages

- English Fluent, C1
- French Fluent, C1
- German Beginner-intermediate, B1
- Arabic Fluent, Native