Walid Chtioui

Software Engineer

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[detailed resume](#)

Professional Experience

Software Engineer

04/2023 – 04/2025   **AR-HUD Software Engineer**, *Volkswagen AG - CARIAD*, C++ | CMake | SomeIP | Python | TS/JS | NDS | DeckGL

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. The tool allowed the AR-HUD team to analyze data from a multitude of sensors (GNSS, ADAS, lane detection, 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 (mainly logical errors).
- Worked within a highly interdisciplinary team involving software engineers, product managers, and test engineers.

Freelance

12/2021 – 12/2022   **Unity3D Developer**, Unity3D | C# | WebGL | Git LFS | Blender | GIMP

Created and implemented a highly-customizable, 3D-immersive virtual exhibition environment for WebGL.

- Implemented graphics, code, and 3D-modeling optimization techniques for flawless user experience on single-threaded WebGL environment.

Internships

06/2022 – 08/2022   **ML Developer**, *PPR Technologies inc.*, Python | Keras | KerasTuner

Implemented an ML pipeline for ECG health data.

- Worked in a team of two developers to build a small, extensible, and AutoML-based pipeline to automatically determine which DL model performs best on ECG time-series data.

Master Thesis

title	*Direct Volume Rendering of Large Volumetric Datasets in Immersive Environments*
supervisors	Prof. Dr. Christoph Heinzl
	[thesis source code](#)

Projects

12/2024 – Present **TextureSubPlugin**, [source code](#), Unity3D | C++ | Vulkan | OpenGLCore | C#
Unity low-level native plugin for uploading data to chunks (i.e., sub-regions or bricks) of a 2D/3D Texture. The plugin can also be used to create 2D/3D textures which is quite handy for circumventing Unity's Texture2D/3D 2GBs size limitation.

04/2024 – Present **CVDS**, [source code](#), Python | OpenCV
Chunked Volumetric DataSet (CVDS) converter for out-of-core visualization of very large volumetric datasets.

02/2023 – Present **NeoVim Unity**, [source code](#), Lua
NeoVim IDE-like configuration with DAP and LSP for Unity game development.

Education

10/2022 – 07/2025 **M.Sc. Computer Science**, *University of Passau*, Passau
Pursuing 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

Computer Skills

Programming Languages	C++, Python, C#, TS/JS, Lua, GLSL, HLSL, C
Technologies	Vulkan, OpenGLCore, OpenGLES, Unity3D, .NET, Git, Qt, Dear ImGui, Protobuf, Docker
Operating Systems	Linux (Ubuntu), Android Automotive, AOSP
Misc	Berkeley Sockets, Jira, DOORS, Confluence, Trello, DeckGL, D3.js, Three.js, Qemu, VirtualBox

Languages

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

Passau, September 24, 2025