Walid Chtioui

Software Engineer

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detailed resume

Professional Experience

Automotive Software Engineer

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

Freelance

12/2021 – 12/2022   **Unity3D Developer**, C# | Unity3D | WebGL | Git LFS | Blender | GIMP
Implemented a highly-customizable, 3D-immersive virtual exhibition environment for WebGL.

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 an AutoML-based pipeline to automatically determine best performing DL model on ECG time-series data.

Master Thesis

Title   *Direct Volume Rendering of Large Volumetric Datasets in Immersive Environments*
Supervisors   Prof. Dr. Christoph Heinzl, Alexander Gall
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 of a 2D/3D Texture and circumventing Unity's Texture2D/3D 2GBs size limitation.
04/2024 – Present	**Chunked Volumetric DataSet (CVDS)**, [source code](#), Python | OpenCV CT/MRI datasets converter for out-of-core visualization of very large volumetric datasets (i.e., hundreds of GBs).
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 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

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
Miscellaneous	GIS, Berkeley Sockets, Jira, DOORS, Confluence, DeckGL, D3.js, Three.js, Qemu, VirtualBox

Languages

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

Passau, October 3, 2025