Application for ML Architect Engineer (Munich, ID 47288)

Dear ARR Team,

I am excited to apply for the ML Architect Engineer position with a particular interest in contributing to AMD's groundbreaking work in neural rendering and real-time systems. My background in computer science with a focus on artificial intelligence, as well as my hands-on experience in machine learning for rendering applications, make me eager to explore neural approaches that redefine gaming graphics and enhance real-time interactive experiences.

As part of my Master's thesis, I developed a neural network for real-time super-resolution, addressing issues of frame rate and resolution in games with high computational demands. Using Python and Pytorch, I created a dataset within Unreal Engine 5 and built a model that upscales from 1080p to 4K in real-time, achieving improved visual quality and performance metrics. This work taught me valuable lessons in optimizing GPU resources and balancing computational demands, which I see as highly relevant to AMD's innovations.

In addition to machine learning, my academic and professional experience includes several years of programming in C++ and CMake, which I used to build a custom game engine during my bachelor's degree. I tutored courses in game engine development with OpenGL and C++, helping new students understand rendering fundamentals, and strengthening my technical communication skills. My recent work with movement behavior analysis in 3D games also led to a publication at the IEEE Conference on Games in Milan this year, where I shared insights on movement visualization in jump'n'run environments.

While I have yet to work directly with D3D12, I am keen to expand my skills in this area and learn more about neural texture block compression and other advanced rendering techniques at AMD. I am confident that my technical foundation and enthusiasm for neural rendering align well with the goals of your team.

I would welcome the chance to contribute to AMD in this role. Though I am early in my career, I am motivated to apply my skills as a junior-level candidate and gain experience in collaboration with your team.

Thank you very much for considering my application, and I look forward to the possibility of discussing how I can contribute to AMD's vision.

Sincerely, Tobias Brandner