

NVIDIA PerfTech

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NVIDIA CORPORATION
GERMANY

Job Application for Tools Engineer - Games and AI - ID JR1994688

Dear PerfTech Team,

About Me

Have you ever wondered how a video game works under the hood? How a single frame is rendered? Why the computational workload varies with scene complexity and resolution—and how we can optimize it in unconventional ways? These questions sparked my curiosity and led me to pursue a BSc in Games Engineering, followed by an MSc in Computer Science with a focus on machine learning. Unfortunately, this also means I can no longer unsee artifacts like aliasing while playing games!

Why NVIDIA?

The desire to offer players the best possible gaming experience while leveraging cutting-edge technology appeals to me. NVIDIA stands at the forefront of this field, with AI-powered advancements like Deep Learning Super Sampling (DLSS) for example. Innovations like these inspired me to explore neural rendering in the context of Unreal Engine 5 as my Master's thesis.

Beyond gaming, AI-driven tools and performance optimization have become key interests of mine. NVIDIA's approach—bridging hardware and software teams to create state-of-the-art developer tools—aligns well with my expertise and ambitions. Joining the PerfTech team would be an exciting opportunity to contribute to profiling and optimization analysis tools, working closely with both hardware and software engineers to push gaming and AI applications to the next level.

Why Me?

During my master's thesis, I focused on real-time rendering super-resolution, specifically scaling from 1080p to 4K at 60 FPS. This required choosing networks with inference times under 16ms and VRAM usage below 1GB. To streamline model evaluation, I designed each model file to run independently with dummy tensors. This approach allowed me to debug architectures faster, measure VRAM usage and inference speed in isolation, and assess suitability without integrating them into the full pipeline. Though simple, this idea significantly improved my workflow and decision-making.

This experience reinforced my belief that even the smallest ideas and tools can have a massive impact on productivity. I'd love the opportunity to bring this mindset to your team and contribute to your projects. Looking forward to hearing from you!

Sincerely,



Tobias Brandner

Attached: Curriculum Vitae