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Keen Games
Germany

Würzburg, 15. November 2024

Application for Junior Graphics Programmer

Dear Keen Games Team,

I am excited to apply for the Junior Graphics Programmer position at Keen Games. With a strong foundation in games engineering and a specialization in machine learning for real-time systems, I am eager to contribute to advancements in graphics algorithms, performance optimization, and unique visualization for engaging game experiences.

In my Bachelor's studies, I built a game engine from scratch using C++ and OpenGL, gaining hands-on experience in rendering fundamentals and memory management. This project deepened my passion for real-time systems and led me to tutor a game engine development course, where I developed strong technical communication skills by helping other students understand rendering concepts.

For my Master's degree, I specialized in artificial intelligence, merging this with my passion for graphics in my thesis project. I developed a neural network for real-time rendering super-resolution, which significantly enhanced resolution, framerate, and quality of rendered content. This project taught me valuable lessons in integrating machine learning with real-time rendering — a skill that I believe could be beneficial for Keen Games' ambitious projects.

In addition, I have contributed to various student game projects, including Abyssal Enigma, a first-person deep-sea exploration game. In this project, I implemented player character animations, particle effects, and gameplay logic, and later adapted the game to VR, incorporating anti-motion sickness techniques like vignettes and virtual nose effects. Another project, Boss'n Run, is a 3D jump-n-run demo focused on analyzing and replicating movement behaviors of iconic games such as Super Mario 64. This work led to the publication "Analysis and Generation of Flow in 3D Jump-n-Run Games," which I presented at the IEEE Conference on Games in Milan this year.

While I have limited experience in shading languages like HLSL, I am highly motivated and quick to learn. My solid technical foundation in C++, game development, and applied machine learning — along with my curiosity about rendering — will enable me to quickly gain proficiency and contribute to Keen Games' 3D graphics team.

I am enthusiastic about the opportunity to join Keen Games, apply my skills to your graphics team, and help drive the boundaries of real-time visualization. Thank you for considering my application; I look forward to discussing how my background and ambitions align with Keen Games' goals.

Sincerely,

Tobias Brandner