

Prof. Dr. Alexander Hann

February 25, 2025

UNIVERSITY HOSPITAL WÜRZBURG MEDICAL CLINIC AND POLYCLINIC II (ZIM)
OBERDÜRRBACHER STR. 6, 97080 GERMANY

Job Application - Game Developer for immersive medical VR applications

Dear Prof. Dr. Alexander Hann,

I appreciated our conversation on **February 13 at 10:30 AM** regarding the **Game Developer** position at the University Hospital Würzburg. The prospect of contributing to immersive **medical VR applications** that enhance medical training, reduce reliance on animal testing, and ultimately improve patient care resonates with me.

I hold a **Master's degree in Computer Science with a specialization in Artificial Intelligence** and a **Bachelor's degree in Games Engineering** from the **University of Würzburg**. My background uniquely positions me at the intersection of **game development, artificial intelligence, and real-time interactive systems**, aligning well with the objectives of your team.

During my academic and professional journey, I have been actively involved in **VR and game development projects**, including:

- **VIA-VR (Medical VR Research Project):** Developed the backend for a **Unity-based VR platform** that allows doctors to create customized VR training applications for scenarios like **first aid training and exposure therapy**. My primary contributions included implementing scene deserialization, ensuring correctness of game objects and integrating assets.
- **Abyssal Enigma (VR Game, Unreal Engine 5):** Designed and implemented a **first-person underwater exploration game** in a team of 6, handling both **VR porting and motion sickness reduction techniques** (e.g., virtual nose and FOV adjustments). This experience provided me with a deep understanding of player comfort in VR.

Having worked with both **Unreal Engine and Unity**, I am proficient in **C++, C#, and Python**. My expertise spans **real-time systems programming, AI integration, and performance optimization for VR applications**. Additionally, I am skilled in **3D modeling, animation, and asset integration** using **Blender**, enabling me to contribute to both technical and artistic aspects of development.

Beyond technical expertise, I thrive in **team-oriented and research-driven environments**. As a teaching assistant in **game engine development**, I mentored students on real-time rendering and advanced design patterns to handle complex code bases, reinforcing my ability to **collaborate, explain complex topics, and document processes clearly**. My research in **game flow design for 3D platformers**, presented at the IEEE Conference of Games in Milan, demonstrates my ability to **analyze interactive experiences, conduct structured investigations, and contribute innovative ideas to game development and user experience design**.

I am particularly excited about the potential of **VR in medical training** —leveraging immersive simulations to provide **realistic, hands-on learning environments for medical professionals**. The ability to replicate complex procedures in a risk-free environment aligns with my passion for using **game technology to solve real-world problems**. My experience with **VIA-VR** has already introduced me to the challenges of **designing medical training simulations**, and I am eager to expand this work in a setting that directly impacts the day to day effort of doctors.

I would love the opportunity to discuss in more detail how my experience and skills can contribute to your research and development efforts. I look forward to your response and hope to speak with you again soon.

Sincerely,



Tobias Brandner