Manuel Zechmann

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EDUCATION

University of Vienna   Vienna, Austria
Master of Science - MSc, Media Computer Science   *Mar 2023 – Jun 2025 (Expected)*
- Master thesis on procedural planet generation, focusing on efficient terrain generation and rendering optimization through a custom Level of Detail (LOD) system.
- Preparing a paper for IFIP-ICEC 2025 based on the thesis, under the guidance of my professor.
- Completed coursework in advanced computer graphics, video game development, multimedia & computer vision, and software engineering. Developed a Vulkan-based game engine in C++ as part of the program. Demonstrated leadership skills in team-based projects, guiding collaboration and ensuring successful project completion.

University of Vienna   Vienna, Austria
Bachelor of Science - BSc, Computer Science   *Oct 2019 – Jan 2023*
- Bachelor thesis on hand detection and pose recognition using deep learning with TensorFlow and Keras. Achieved 98% accuracy in hand detection and up to 90% accuracy in pose recognition, depending on the pose.
- Studied core computer science principles with a focus on C++, signal & image processing, and computer graphics.

EXPERIENCE

ViewApp   Vienna, Austria
Multimedia Software Engineer   *Jun 2024 – Sep 2024*
- Designed and developed tools in C++ and Unreal Engine to streamline artists' workflows, improving process efficiency.
- Automated the build process for the games using TeamCity, reducing manual effort and minimizing errors.
- Resolved game bugs to enhance system stability and end-user experience.

Partium   Vienna, Austria
Junior Software Engineer   *Oct 2022 – Mar 2024*
- Trained and tested ML models for spare parts from general datasets, achieving improved relevance.
- Researched, developed, and integrated an OCR component, streamlining text recognition for spare parts.
- Deployed microservices to beta environments using Docker and Kubernetes, ensuring seamless integration.
- Enhanced the CI/CD pipeline with additional checks and testing processes, improving system reliability.
- Optimized developer workflows by introducing custom tools like linters, accelerating development speed.

Partium   Vienna, Austria
Software Engineer Intern   *Jul 2022 – Sep 2022*
- Explored Elasticsearch as a potential replacement for the existing search solution, conducting extensive testing.
- Successfully added Elasticsearch to the system, achieving notable speed improvements for larger datasets.
- Collaborated in a cross-functional Agile team, contributing to CI/CD pipelines and improving testing workflows.

PROJECTS

Super Mario 64 ROM Hack | *C++, Blender*
- Created a custom ROM hack using the SM64-Decomp Git project for a competition.

Vulkan-based Game Engine | *Vulkan, C++, Windows, NVIDIA Physx*
- Initially created for University, this game engine has been generalized and improved, but is still being worked on.

PiCar-X with Computer Vision | *Python, OpenCV, Computer Vision, Linux*
- Assembled a PiCar-X and worked on computer vision projects to deepen expertise.

Personal Website | *HTML, CSS, JavaScript*
- Built a personal website from scratch to showcase technical projects and achievements.

SKILLS

Programming Languages: C++, Python, JavaScript
Tools: Vulkan, Unreal Engine, TensorFlow, Git, Blender, Docker, Kubernetes, OpenGL, Godot
Technical Areas: Computer graphics, computer vision, game development, procedural generation, multimedia
Soft Skills: Agile teamwork, communication, project coordination, leadership experience at university
Languages: German (Native), English (C2), Spanish (A2)