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.
- Publishing a paper based on the master thesis at GAMEON 2025 conference in Ghent.
- Completed coursework in advanced computer graphics, game engines, multimedia, computer vision, machine learning 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. The hand image generation process was done using Unity.
- Studied core computer science principles with a focus on C++, signal & image processing, and computer graphics.

Experience

Snap Inc — Vienna, Austria

Computer Vision Researcher (6 Months) — *Aug 2025 – Feb 2026*

- Working in the general area of Computer Vision.

ViewApp — Vienna, Austria

Multimedia Software Engineer — *Jun 2024 – Sep 2024, Jan 2025 – Jul 2025*

- Took full ownership of the game's bus tutorial, covering all aspects from gameplay logic to design.
- Designed and developed tools in C++ and Unreal Engine to streamline artists' workflows, improving 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.
- Collaborated closely with the team to meet deadlines in order to successfully release the latest game version.

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.

Publications

Comparative Analysis of Procedural Planet Generators — GAMEON 2025, Ghent, Belgium

Conference Paper — *Oct 2025*

Awards

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None yet

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.
- Created a PiCar-X clone in NVIDIA IsaacSim and implemented SLAM.

Personal Website | *HTML, CSS, JavaScript*

- Built a personal website from scratch to showcase technical projects and achievements.

Skills

Programming Languages: C++, Python, JavaScript
Core Skills: Computer Graphics, Computer Vision, Game Development, Machine Learning
Advanced Skills: Large Language Models, Procedural Generation, Multimedia, Robotics, familiarity with SLAM
Tools: TensorFlow, PyTorch, familiarity with CUDA, Vulkan, OpenGL, Unreal Engine, Godot, NVIDIA PhysX, NVIDIA Isaac Sim
Soft Skills: Agile, communication, presentation skills, project coordination, leadership experience at university
Languages: German (Native), English (C2), Spanish (A2)