

CV - TOBIAS BRANDNER

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EDUCATION

MSc in Computer Science - Specialization in Artificial Intelligence	Grade 1.5
Julius-Maximilian-University Würzburg	<i>April 2021 - September 2024</i>
Thesis topic: Real-time rendering super resolution with Unreal Engine 5	
<i>Notable courses:</i> Computational geometry, Machine learning for NLP, Programming with neural nets	
BSc in Games Engineering	Grade 1.8
Julius-Maximilian-University Würzburg	<i>October 2017 - September 2021</i>
Thesis topic: Crowdsourced Help Facility Design and Management for Authoring Platforms	
Physics Studies	No degree
Friedrich-Alexander-University Erlangen	<i>October 2013 - March 2017</i>
Abitur	Grade 2.7
Werner-von-Siemens-Gymnasium Weißenburg/Bay.	<i>September 2005 - July 2013</i>

EXPERIENCE

C# Developer (Research project) , Julius-Maximilian-University	<i>November 2021 - August 2023</i>
<i>Technologies:</i> C#, Unity	
<ul style="list-style-type: none">Transformed 3D scene data from Mozilla Spoke to Unity, ensuring functional replication.	
C++ Developer (Teaching Role) , Julius-Maximilian-University	<i>August 2021 - August 2023</i>
<i>Technologies:</i> C++, OpenGL, CMake	
<ul style="list-style-type: none">Taught a course about game engine development, designed C++ examples and documented concepts.	
Software Developer (Internship) , Gentle Troll Entertainment GmbH	<i>March 2021 - June 2021</i>
<i>Technologies:</i> C#, Unity	
<ul style="list-style-type: none">Programmed game play logic for a serious game about sport management in Unity.	

PROJECTS

Real-Time Rendering Super Resolution with Unreal Engine 5	Github
<i>Technologies:</i> Python, Pytorch, Unreal Engine 5	
<ul style="list-style-type: none">Developed a neural method to increase resolution and quality of rendered content in real-time.	
Abyssal Enigma - Dive In Edition (VR)	Itchio
<i>Technologies:</i> Unreal Engine 5, VR, Blender	
<ul style="list-style-type: none">Designed and developed a first person character for a deep sea exploration game and ported it to VR.	
Multi Language Image Classification	Github
<i>Technologies:</i> Python, Pytorch, Jupiter Notebook	
<ul style="list-style-type: none">Modified context based methods for vision and language classification to work in a multi-lingual context.	
Boss'n Run - Exploring Game Flow	Itchio
<i>Technologies:</i> Python, Unreal Engine 5, C++, Blender	
<ul style="list-style-type: none">Implemented and analyzed different movement mechanics for 3D jump'n runs.	
Eternal Game Engine	Github
<i>Technologies:</i> C++, OpenGL, PreMake	

- Developed a game engine with OpenGL as render backend and an editor written with Dear ImGui.

PUBLICATIONS

Analysis and Generation of Flow in 3D Jump'n'Run Games.

[PDF](#)

2024 IEEE Conference on Games (CoG). Tobias Brandner, Marc Mußmann, and Sebastian von Mammen.

Investigating Crowdsourced Help Facilities for Enhancing User Guidance.

[PDF](#)

2023 IMET.

Sooraj Babu, Tobias Brandner, Samuel Truman, Sebastian von Mammen.

SKILLS

Languages: Python, C++, C#, Java, Rust

Frameworks/Libraries: Pytorch, OpenCV, Matplotlib, Pandas, OpenGL

Tools: Git, CMake, Unreal, Unity, Blender