









Jonas Heinle

Information Scientist | Master of Science

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“Wahrlich es ist nicht das Wissen, sondern das Lernen, nicht das Besitzen, sondern das Erwerben, nicht das Da-Seyn, sondern das Hinkommen, was den grössten Genuss gewährt.” (Carl Friedrich Gauß)

Experiences

- | | |
|--|---|
| today

February 2024 | Research Associate Scene Analysis, AI Software Development & Image Processing, STUTTGART, Fraunhofer IPA <ul style="list-style-type: none">› providing scene understanding for SMEs <div>Machine learning Python Image processing</div> |
| May 2023
October 2022 | Research assistant, KARLSRUHE, CAS Software AG <ul style="list-style-type: none">› providing user guidance in mixed reality applications› using new machine learning approaches and eye tracking <div>Machine learning Mixed reality HoloLens2 C# Python</div> |

Education

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| September 2023
April 2020 | Master of Science Computer Science Student, KARLSRUHE, Karlsruhe Institute of Technology
Overall grade: 1.9/ US-GPA: 3.1 <ul style="list-style-type: none">› Thesis: Designing User-adaptive Guidance for Mixed Reality Using Eye Tracking <div>AI Computer Graphics and Geometry Processing Anthropomatics and Cognitive Systems</div> |
| March 2020
October 2015 | Bachelor of Science Computer Science Student, KARLSRUHE, Karlsruhe Institute of Technology
Overall grade: 2.5/ US-GPA: 2.5 <ul style="list-style-type: none">› Thesis: Temporally Stable Blue Noise Error Distribution in Screen Space for Real Time Applications <div>Path Tracing Blue Noise</div> |
| 2014

2006 | Pupil Higher education entrance qualification (A-levels), SCHWÄBISCH HALL, Gymnasium bei St. Michael
Overall grade: 2.2/ US-GPA: 2.8 <ul style="list-style-type: none">› First steps in Procedural programming: Sudoku project› Started learning Java autodidactically <div>Delphi Pascal Java</div> |

Teaching and Mentoring

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|---|---|
| August 2022
October 2018 | Technical computer science Tutor, RESEARCH ASSISTANT, Karlsruhe Institute of Technology <ul style="list-style-type: none">› Teaching undergraduates in digital technology. This includes inter alias control units, run-time effects, computer arithmetic, boolean algebra, NAND/NOR gates, MOSFET, CMOS, Quine-McClusky, hazards, sequential circuit› Teaching undergraduates in computer organization which includes inter alias c programming, caches, assembler, memory organization, DLX-pipelining, RAM, paging, segmentation <div>LaTeX C Assembler MIPS RISC-V</div> |
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August 2021
January 2020

Mathematics | Tutor, FREELANCER, Karlsruhe


> Teaching pupils in mathematics

Mathematics

Projects

RENDERER

2020-NOW

 github.com/Kataglyphis/GraphicsEngineVulkan  github.com/Kataglyphis/GraphicEngine

This projects provide me with a solid Vulkan/OpenGL starting point for implementing modern established rendering techniques and getting quickly started in own research topics.

CMake C C++ Python Vulkan OpenGL

MACHINE LEARNING ALGORITHMS

2020 - NOW


 github.com/Kataglyphis/MachineLearningAlgorithms

This project provides me a solid Machine Learning(ML) starting point for implementing modern established ML algorithms and getting quickly started in own research topics.

LaTeX Python R

DESIGNING USER-ADAPTIVE CONTENT FOR MIXED REALITY USING EYE AND HAND TRACKING

2022-2023

 github.com/Kataglyphis/Designing-User-adaptive-Content-for-Mixed-Reality-Using-Eye-and-Hand-Tracking

This work exhibits interrelationships between users' currently fixated objects, their eye, head, hand movement and users' intentions while doing a task. Based on these findings this work provides user-adaptive guidance for improved interaction quality between Mixed Reality environment and the user.

LaTeX C# Mixed Reality Python Unity

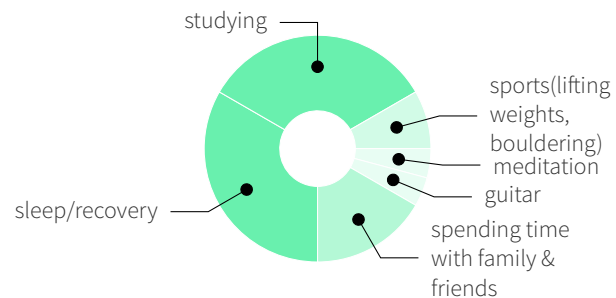
Languages

- > German
- > English, level B2
- > French, level B1
- > Latin

Hobbies

- > Powerlifting
- > Bouldering
- > Guitar
- > Philosophy
- > Politics

A Day of My Life



International experience

- > October 2012 - November 2012: Student exchange India, Mayo College Ajmer

Volunteering

- > February 1, 2015 - August 1, 2015: Federal Volunteers Service at AWO (worker welfare) in Schwäbisch Hall (delivering Meals on Wheels, various driving services, assisting a 16 year old boy with autism in school)

Extracurricular courses/certificates

- > Computer Graphics with Modern OpenGL and C++
- > Learn the Vulkan API with C++
- > Master Computer Vision OpenCV4 in Python with Deep Learning
- > "Start in der Lehre" - tutor program at the Karlsruhe Institute of Technology (KIT): The aim of the program is to develop teaching skills alongside practice.
- > Seminar on political education from the Federal Office for Family and Civil Society Tasks