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

- Software development for scene analysis, especially related to 2D and 3D person, object motion detection and analysis
- Application-oriented AI-based software development
- Human-centered project implementation by taking into account the results of user needs analyses
- Utilization and application of modern, different sensor technologies
- Development and evaluation of new research approaches for scene analysis (software and hardware concepts)

Machine learning | Python | Image processing

May 2023
October 2022

Research assistant, Karlsruhe, CAS Software AG

- providing user guidance in mixed reality applications
- using new machine learning approaches and eye tracking

Machine learning | Mixed reality | HoloLens2 | C# | Python

Education

September 2023
April 2020

Master of Science Computer Science | Student, Karlsruhe, Karlsruhe Institute of Technology

Overall grade: 1.9/ US-GPA: 3.1

- Thesis: Designing User-adaptive Guidance for Mixed Reality Using Eye Tracking

AI | Computer Graphics and Geometry Processing | Anthropomatics and Cognitive Systems

March 2020
October 2015

Bachelor of Science Computer Science | Student, Karlsruhe, Karlsruhe Institute of Technology

Overall grade: 2.5/ US-GPA: 2.5

- Thesis: Temporally Stable Blue Noise Error Distribution in Screen Space for Real Time Applications

Path Tracing | Blue Noise

2014
2006

Pupil | Higher education entrance qualification (A-levels), Schwäbisch Hall, Gymnasium bei St. Michael

Overall grade: 2.2/ US-GPA: 2.8

- First steps in Procedural programming: Sudoku project
- Started learning Java autodidactically

Delphi | Pascal | Java

Teaching and Mentoring

August 2022 – October 2018 | **Technical computer science | Tutor, Research Assistant, Karlsruhe Institute of Technology**

- Teaching undergraduates in digital technology. This includes inter alias control units, runtime effects, computer arithmetic, boolean algebra, NAN/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

LaTeX | C | Assembler | MIPS | RISC-V

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

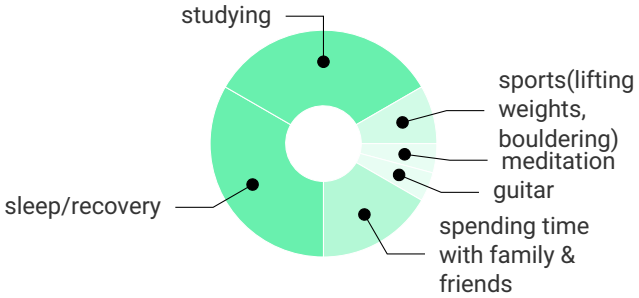
Languages

- 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