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, run-time 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.
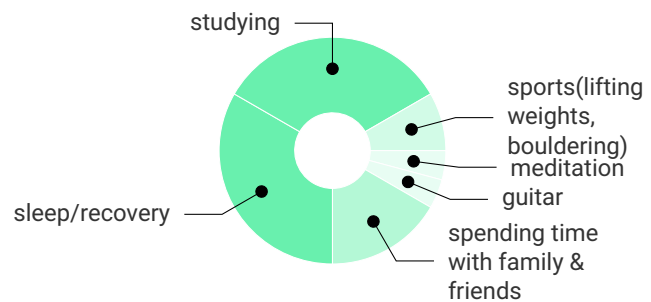
LaTeX | Python | R

🅰 Languages

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

🚴 Hobbies

> Powerlifting
> Bouldering
> Guitar
> Philosophy
> Politics

ℹ 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