

LUKAS PETERMANN

Magdeburg, DE

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EDUCATION

M.Sc. Computer Science , Otto-von-Guericke University, Magdeburg	Oct. 2024 - Exp. 2025
M.Sc. Computer Science , Karlsruhe Institute of Technology, Karlsruhe	2023 - Sep. 2024
B.Sc. Computer Science , Otto-von-Guericke University, Magdeburg	2018 - 2023
Thesis: <i>Comparison of Real-Time Plane Detection Algorithms on Intel RealSense¹</i> , 1.0	
A Levels , Herderschule Rendsburg	2008 - 2017

SKILLS

Technical Skills Python, C++, Git, Flask, NumPy, Open3D, Linux, Kotlin, Jetpack Compose

EXPERIENCES

Working Student Software Development Apr. 2024 - Today
SoftwareBees GmbH *Krebeck, DE*

- Integrated the text extraction (see *Freelancing Work*) into kafka pipeline and added a prior document splitting step.
- Developed a mobile app for the administration and management of communities using Kotlin Multiplatform and Jetpack Compose.

Research Assistant Dec. 2023 -Mar. 2024
Karlsruhe Institute of Technology, Steinbuch Centre for Computing *Karlsruhe, DE*

- Continued to develop new features for OBR.

Summer Intern Oct. 2023 - Nov. 2023
The Mathworks GmbH, Parallel Computing Team *München, DE*

- Implemented sparse triangular preconditioners for GPU iterative solvers.
- Improved the performance of GPU sparse `mldivide` using cuSPARSE.

Research Assistant Apr. 2023 - Sep. 2023
Karlsruhe Institute of Technology, Steinbuch Centre for Computing *Karlsruhe, DE*

- Developed and maintained the *OpenFOAM Benchmark Runner* (OBR)² in Python.

Research Assistant Jan. 2021 - Feb. 2023
Otto-von-Guericke University, Department of Software Engineering *Magdeburg, DE*

- Implemented a time- and memory-efficient version of RSPD³ in Python.
- Designed a simulator for SLAM algorithms in Python.
- Implemented a 3D-Minimap within the context of an AR Unity app in C#.

Intern Aug. 2020 - Dec. 2020
LIVEDAB GmbH *Hamburg, DE*

- Developed new features within a filter marketing platform using Typescript and React.

¹<https://github.com/lupeterm/Thesis/blob/master/Document/main.pdf>

²<https://github.com/hpsim/OBR>

³https://www.inf.ufrgs.br/oliveira/pubs_files/RE/RE.html

- Designed a RESTful API and database model using PostgreSQL.

Working Student Software Development
BM Sports Technology GmbH

Oct. 2019 - Dec. 2019
Magdeburg, DE

- Extended the User-Interface of an iOS app using SwiftUI.
- Implemented real-time visualization of sensor data using SwiftUI.

FREELANCING WORK

SoftwareBees GmbH

Feb. 2024 - Mar. 2024

- Developed automatic extraction of textual data using Python, Tesseract, and OpenCV with a 90% success rate.

XCO-FDK

Mar. 2023 - Jun. 2023

- Developed automatic Code Generation using Python and Jinja2.
- Set up semi-automatic continuous documentation using Python and Sphinx.

JD-Software

Aug. 2023

- Co-created a Spring-Boot development guide.

SOFTWARE

RSPyD⁴ Self-implementation of RSPD³ in Python with focus on efficiency.

CYK Validator⁵ Application that transforms a context-free grammar into Chomsky-Normalform and reports all substrings of a given word that can be generated by said grammar.

OBRG-Py⁶ A Python implementation of the *Octree-based Region Growing* (OBRG)⁷ plane detection algorithm as part of my bachelor thesis.

CERTIFICATES

Node Level Performance Engineering

High-Performance Computing Centre Stuttgart

June 2023
Stuttgart, DE

EXTRA-CURRICULAR ACTIVITIES

High-Performance Computing Status Conference Attendee

Karlsruhe Institute of Technology

June 2023
Karlsruhe, DE

Student council member of the Faculty of Computer Science

Otto-von-Guericke University Magdeburg

Sep. 2020 - Mar. 2021
Magdeburg, DE

LEADERSHIP

Organized the mentoring program at the Faculty of Computer Science.

Otto-von-Guericke University Magdeburg

Sep. 2020 - Mar. 2021
Magdeburg, DE

⁴<https://github.com/lupeterm/RSPyD>

⁵<https://github.com/lupeterm/CYK>

⁶<https://github.com/lupeterm/OBRG-Py>

⁷<https://www.sciencedirect.com/science/article/pii/S0924271615000283>