

LUKAS PETERMANN

+49 152 08448961 ◊ Karlsruhe, DE

lukas.petermann13@gmail.com ◊ <https://lupeterm.github.io>

EDUCATION

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

SKILLS

Technical Skills	Python, C++, Git, Flask, NumPy, Open3D, Linux
Soft Skills	Communication, Time Management, Logical Thinking

EXPERIENCES

Research Assistant Karlsruhe Institute of Technology, Steinbuch Centre for Computing <ul style="list-style-type: none">Continued to develop new features for OBR.	Dec. 2023 - Today <i>Karlsruhe, DE</i>
Summer Intern The Mathworks GmbH, Parallel Computing Team <ul style="list-style-type: none">Implemented sparse triangular preconditioners for GPU iterative solvers.Improved the performance of GPU sparse <code>mldivide</code> using <code>cuSPARSE</code>.	Oct. 2023 - Nov. 2023 <i>München, DE</i>
Research Assistant Karlsruhe Institute of Technology, Steinbuch Centre for Computing <ul style="list-style-type: none">Developed and maintained the <i>OpenFOAM Benchmark Runner</i> (OBR)² in Python.	Apr. 2023 - Sep. 2023 <i>Karlsruhe, DE</i>
Research Assistant Otto-von-Guericke University, Department of Software Engineering <ul style="list-style-type: none">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#.	Jan. 2021 - Feb. 2023 <i>Magdeburg, DE</i>
Intern LIVEDAB GmbH <ul style="list-style-type: none">Developed new features within a filter marketing platform using Typescript and React.Designed a RESTful API and database model using PostgreSQL.	Aug. 2020 - Dec. 2020 <i>Hamburg, DE</i>
Working Student BM Sports Technology GmbH <ul style="list-style-type: none">Extended the User-Interface of an iOS app using SwiftUI.Implemented real-time visualization of sensor data using SwiftUI.	Oct. 2019 - Dec. 2019 <i>Magdeburg, DE</i>

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

FREELANCING WORK

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

June 2023

High-Performance Computing Centre Stuttgart

Stuttgart, DE

EXTRA-CURRICULAR ACTIVITIES

High-Performance Computing Status Conference Attendee

June 2023

Karlsruhe Institute of Technology

Karlsruhe, DE

Student council member of the Faculty of Computer Science

Sep. 2020 - Mar. 2021

Otto-von-Guericke University Magdeburg

Magdeburg, DE

LEADERSHIP

Organized the mentoring program at the Faculty of Computer Science.

Sep. 2020 - Mar. 2021

Otto-von-Guericke University Magdeburg

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>