

# Marcel Roth

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## Mobile

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## LinkedIn & Portfolio

linkedin.com/in/mvrclroth  
mvrcl.github.io



## Education

2022 – present

### M. Sc. in Computer Science

Julius-Maximilian-Universität | Würzburg

- Specialization
  - Machine Learning & Computer Vision
  - Artificial Intelligence & AI Safety
  - Reinforcement Learning
  - Virtual & Extended Reality (VR/XR)

2018 – 2022

### B. Sc. in Computer Science

University of Applied Sciences | Ulm

- Specialization:
  - Software-Engineering
- Exchange Semester at Halmstad University, Sweden

2017 – 2018

### B. Sc. in Physics

University | Ulm

## Professional Experience

2023 – present

### Knowledge Engineer (Working Student)

denkbares GmbH | Würzburg

- Front-End Development
- ASP, Clingo, and Gringo

2021 – 2023

### Software Developer (Working Student)

eXXcellent solutions GmbH | Ulm

- Experience with multiple Projects
- Full-Stack Development using Java, VueJS, React, and TypeScript

2018 – 2021

### Work Safety (Working Student)

Liebherr-Components Kirchdorf GmbH

# Computer-Vision Challenges

Nov. 2023 – Jan. 2024

## Vesuvius GP Challenge | Progress Prize Winner

- Applied and Trained SOTA Transformer Model Architecture with Weak-Supervised Learning for precise Image Segmentation and Ink Detection of Ancient Greek Letters
- Distributed Training on 16x H100 GPUs
- Designed and utilized custom Masked Dice and Focal Loss Functions

Aug. 2023 – Oct. 2023

## NeurIPS: Foundation Model Prompting for Medical Image Classification Challenge 2023 | 2<sup>nd</sup> Place

- Applied Foundation Models for efficient Medical Image Analysis and Classification
- Applied One-Shot and Few-Shot Learning to improve Foundation Model Training with minimal amount of Data

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# Knowledge and Miscellaneous

## Programming Languages

- |              |              |
|--------------|--------------|
| ▪ Java       | 4 years      |
| ▪ TypeScript | 2 years      |
| ▪ Python     | 2 years      |
| ▪ C#         | Intermediate |
| ▪ C++        | Basic        |

## Frameworks & Technologies

- |                      |   |
|----------------------|---|
| ▪ Frontend           | React, VueJS, HTML5, SCSS, MUI & styled comp.   |
| ▪ Backend            | NodeJS, Flask   |
| ▪ Mobile Development | Android Studio, Flutter   |
| ▪ Machine Learning   | PyTorch, Sklearn, OpenCV, Pillow, timm, Pandas, WandB, Tensorboard, Albumentations, MMCV, Lightning |
| ▪ Game Development   | Unity   |
| ▪ Database           | PostgreSQL, Firebase, H2  |

## Languages

German (native), English (fluent), Swedish (beginner)

## Hobbies

Volleyball, Cooking, Board games