

Contact

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WORK EXPERIENCE

Massachusetts Institute of Technology Department of Earth, Atmospheric, and Planetary Sciences,
Machine learning engineer, Research Contributor 12/2023 - ongoing

Project: "HRMelt" - Creating daily high-resolution maps of surface meltwater in the (Ant-)Arctic with deep learning-based superresolution models

Collaboration in an international team in a scientific environment:

- Working with geospatial data, such as, passive microwave, MODIS, digital elevation maps and synthetic aperture radar.
- Adapting and benchmarking various deep learning-based image segmentation models, based on UNet for our task of superresolution on geospatial data.
- Implementing various evaluation metrics for model training and result presentation.
- Monitoring metrics and outputs and creating comprehensive reports on model performance.
- Optimizing the machine learning models on CPU and GPU clusters on supercomputers.

Qaamgo Web GmbH, Radolfzell – Germany
Software-developer, Apprenticeship

04/2021 - 07/2023

Optimized Operational Costs through Software Integration:

- Orchestrated the seamless integration of conversion algorithms, resulting in a substantial annual cost optimization.

Infrastructure Design, Databases and Optimization:

- Established and managed a RabbitMQ queue system for distributing data and workloads across a distributed rendering server infrastructure.
- Working with both SQL and NoSQL databases like Elasticsearch has deepened my understanding and enables me to make informed decisions about their design and selection.
- Implemented pings and Grafana boards for proactive monitoring of backend infrastructure.

Security and Scalability Achievements:

- Implemented Docker to isolate data conversion software, significantly enhancing security and scalability.
- Established a self-hosted encrypted communication service, reinforcing overall company security.

Web Development and OAuth Compliance:

- Using the Vue Framework, creating modern and reactive websites.
- Successfully implemented OAuth, ensuring compliance with Google OAuth standards.

Fricker Autohaus, Laichingen - Germany
Mechatronics Technician, Internship

01/2015 - 06/2015

Practical and soft skills.

- Collaborated within a team, fostering a strong work ethic, for the maintenance of automotive systems.
- Applied systematic approaches to identify and repair non-functioning systems effectively.
- Engaged with customers to provide tailored solutions and address individual needs.

EDUCATION

Google Certified TensorFlow Developer

Passed

09/2023 - 11/2023

Study contents:

- Learned and implemented fundamental architectures in machine learning basic deep learning, CNN, RNN with NLP and time series predictions.
- Learning the math and theory behind machine learning and using it to improve ML models.
- Familiarized myself with data loaders and other pipelines to process complex input data
- Evaluation and tuning of trained models.
- Transfer learning and fine tuning of existing models.
- Evaluation and Visualization of data and models.

Zeppelin-Gewerbeschule, Konstanz - Germany

IT Specialist for Application Development, Grade 2.1

04/2021 - 07/2023

Final Project:

- "Comparison of Flutter and React native implementation, considering the existing API".

Study contents:

- Database: Implementation of structures to achieve efficient and scalable data storage.
- SQL: Creation of precise query statements leading to accurate and efficient data retrieval.
- Working with Raspberry Pi and integration of sensors and actuators in software.
- Design and work with enterprise network architecture.

HTWG Konstanz, Konstanz – Germany

Bachelor of Computer Science with Specialization in Applied Development

10/2017 - 06/2020

Study contents:

- Design Patterns: Applied design patterns with the aim of creating easy to scale and maintain code.
- Computer architecture: Using Assembler and C++ to make highly performant code.
- Software architecture: Reading and creating UML diagrams to plan and implement complex software architecture.
- Mathematical understanding like: Series, Linear Algebra and Stochastics.

Pro Genius School of Economics, Ulm - Germany

A-Level, Grade 2.2

08/2015 - 08/2017

Study contents:

- Analyzing metrics to better understand economic decisions in company environments.
- Working in Teams to plan viable business strategies.
- Fundamental mathematical and statistical understanding

TECHNOLOGY KNOWLEDGE

Ordered by experience top to bottom

Frameworks:

- Tensorflow
- Pytorch
- Symfony
- Flutter
- Vue

Languages:

- Python
- Java
- Php
- C#
- C++
- Js

Database/ Monitoring:

- SQL
- Elasticsearch
- Graphana
- InfluxDB

Architecture:

- Docker
- RabbidMq
- LinuxVm
- Vagrant

Other:

- Git
- Postman
- Playwright
- PHPUnit

SKILLS

- Language: German native, English B2 (Work experience in an international environment)
- Social: Communication Seminar by Birmelin Consulting GmbH

ACTIVITIES AND INTERESTS

- Hobbies: Playing guitar, Cooking, Scuba diving, Fishing
- Volunteering: Boy scouts team leader for 5 years - organizing team events.
- Sports: Jiu-Jitsu, Swimming
- Books: Designing machine learning systems, Clean code, Designing Data-Intensive Applications

Til Widmann



08023 Barcelona 4th of April 2024