

Benedikt Mayer

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Software engineer interested in machine learning, human-computer interaction, functional programming, data visualization and mixed reality.

Work Experience

- Since 04.2021 **Machine Learning Reply, Munich**, - Machine Learning Engineer
Technologies: Python, TensorFlow, Pandas, AWS, Kafka, Oracle SQL, Azure Machine Learning, Containers, Kubernetes
Building ML solutions from data ingestion to training, deployment and monitoring.
- 09.2019-03.2021 **Microsoft, Munich**, - Machine Learning Working Student
Technologies: C# (Asp.net Core, WPF, UWP), Python, TensorFlow, Azure Machine Learning, Bonsai, Docker, Azure Cognitive Services, HoloLens 2
Building showcases and conducting workshops on the intersection of software engineering and data science for the Microsoft Technology Centre Munich.
- 12.2018-05.2019 **Bundeswehr University, Munich**, – Research Assistant
Technologies: C#, Unity, Motive, Microsoft HoloLens, HTC Vive, Leap Motion
Thesis supervision on VR/AR, eye-tracking, gesture interaction and machine learning.
- 10.2017-04.2018 **Intel Corporation, Munich**, – Software Engineering Intern
Technologies: JavaScript (jQuery), HTML5, CSS (Bootstrap), PHP, SQL, Linux (SUSE)
Development of a strategic planning web app. Implemented new data visualization sections in a REST service and migrated the backend to a modern Linux architecture.
- 05.2017-08.2017 **Siemens AG, Munich**, – Software Development Working Student
Technologies: Java (Swing), MagicDraw, Thrift
Software development for model-based systems engineering. Collaborated with other departments to expand functionality and improve user experience.
- 09.2015-07.2016 **LMU, Munich**, – Research Assistant
Technologies: JavaScript (D3.js, AngularJS, Node.js), SQL, HTML5, CSS (Bootstrap)
Data visualization, web development and HCI research for the LFE Media Informatics.
- 06.2014-09.2014 **“The Table”, Seoul**, – Work & Travel in South Korea
- 2012-2016 **Mayer’s Brauwerk, Oggersheim**, – Auxiliary

Education

- 10.2017-12.2020 **LMU Munich** – Master of Science – Grade: 1.27
Informatics with focus on machine learning, functional software development and Human-Computer Interaction. Master thesis about **Interpretable Machine Learning**.
- 10.2016-03.2017 **Lancaster University, UK** – Bachelor thesis – Grade: 1.3
Technologies: C#, Unity, Linux (Mint), HTC Vive, Leap Motion
“Integrating Eye Gaze and Gestures into Virtual Reality”
- 10.2014-09.2017 **LMU Munich** – Bachelor of Science – Grade: 1.9
Media Informatics with applied subject Human-Computer Interaction.
- 08.2006-03.2014 **Carl-Bosch-Gymnasium Ludwigshafen** – High School – Grade: 2.0

Skills

Programming **C#, JavaScript, Python, Java, Haskell, R**
Tools **Git, Docker, Unity, Linux, Azure**
Expertise **AR/VR, Machine Learning, IoT**
Interests **Visualizations, Security, Research, UX**

Languages

German **Native speaker**
English **Fluent**
French **Basic knowledge**
Korean **Basic knowledge**

University Projects

- 12.2019-11.2020 **Master Thesis** – Interpretable Machine Learning
Technologies: R (mlr3, iml), Linux (Ubuntu), LaTeX
Creating a new Feature Importance metric based on local loss derivatives for better efficiency as well as increased robustness against correlations and sparsity in the data.
- 04.2019-08.2019 **[Water Leak Detection](#)** – Applied Machine Learning
Technologies: Python (TensorFlow, Keras, NumPy, scikit-learn), CUDA, Linux
To find water leaks in audio files of water pipes, we pre-processed the audio track into spectrogram images and then built autoencoder models combined with clustering for unsupervised classification and CNNs for supervised classification.
- 06.2018-08.2018 **[Modern Radios](#)** – Hardware interaction group project
Technologies: Python, C++ (Arduino), Raspberry Pi, Arduino, Linux (Raspbian)
As a team of two we developed, prototyped and built a radio device with modern features (NFC, E-Ink displays), referencing traditional radio designs.
- 06.2018-08.2018 **Robocode Learner** – Applied Reinforcement Learning
Technologies: Java (Swing), Teachingbox (RL-Framework)
Using Temporal Difference learning, we designed and implemented an AI which learns to win against enemy robots in the coding game Robocode.
- 02.2016-03.2016 **Data Visualization** – Lab Project
Technologies: Java (Processing)
In a practical course we developed a novel data visualisation application with real world data on food and beverage trade.

[More on my portfolio](#)

Publications

- 2017 **[Gaze + Pinch interaction in virtual reality](#)**
Authors: Pfeuffer, K., Mayer, B., Mardanbegi, D., Gellersen, H.
SUI '17 Proceedings of the 5th Symposium on Spatial User Interaction, Pages 99-108
- 2019 **[EyeSeeThrough: Unifying Tool Selection and Application in Virtual Environments](#)**
Authors: Diako Mardanbegi, Ken Pfeuffer, Alexander Perzl, Benedikt Mayer, Shahram Jalaliniya, Hans Gellersen
The 26th IEEE Conference on Virtual Reality and 3D User Interfaces, 2019

Personal Interests

- Volunteering **Media Informatics student council** – Spokesperson 2016-2018
Active in organisation, planning and the teaching committee
- Sports **Swimming, mountain biking, ju-jutsu**