

# Farid Abdalla

🌐 [kurokabe.github.io](https://kurokabe.github.io) | 🌐 [Kurokabe](#) | [in farid-abdalla](#)  
🏠 2502 Biel/Bienne, Switzerland | 📅 20.03.1996

## Education

### Master's Thesis

Osaka Metropolitan University

04/2022 – 09/2022

Osaka, Japan

Grade: **6.0/6.0**

### M.Sc. in Data Science

HES-SO Master – University of Applied Sciences

09/2019 – 08/2020

Lausanne, Switzerland

GPA: **5.5/6.0**

### B.Sc. in Computer Science – Software Development

HE-Arc – University of Applied Sciences

09/2016 – 08/2019

Neuchâtel, Switzerland

GPA: **5.6/6.0** (award for best GPA)

## Work Experience

### Data Scientist – Machine Learning Engineer

ORamaVR

09/2023 – Present

Geneva, Switzerland

- Developing a pipeline for text-to-3D and editing by improving MeshGPT principle with octree tokenization (Mugiware project).
- Creation of a dataset infrastructure integrating 3D models and captions for text-to-3D applications (OVR-datasets project).
- Improving scene generation with enhanced 3D mesh retrieval and .usd export capabilities (Shenlong project).

### Data Scientist – Research Assistant

HE-Arc – University of Applied Sciences

09/2020 – 09/2023

Neuchâtel, Switzerland

- Delivered ML solutions for 6+ projects across multiple including financial, social, industrial, and space.
- Contributed to a conference paper on task scheduling through reinforcement learning optimization.

## Certificates

### Deep Reinforcement Learning Course

HuggingFace

March 2023

Grade: **Excellent**

### Winter School in Data Analytics and Machine Learning

University of Fribourg

Spring 2021

GPA: **5.6/6.0**

# Data Scientist

☎ +41 79 236 78 06 | 🇨🇭 Swiss Nationality  
✉ [abdalla.farid@hotmail.com](mailto:abdalla.farid@hotmail.com)

## General Skills

Machine Learning

Deep Learning

Reinforcement Learning

Data Analysis

Data Visualization

Computer Vision

NLP

Generative AI

Software Engineering

## Technical skills

### Machine Learning and AI:

PyTorch, TensorFlow, HuggingFace, Nvidia NeMo, Scikit-Learn, Weights & Biases, Pandas, NumPy, PyVespa

### Software and Tools:

Git, Docker, Kubernetes, Cloud Computing (Azure), Unity, Blender

### Programming Languages:

Python, C++ (CUDA, Qt), C#, SQL, LaTeX

## Publications

### SOON: Social Network of Machines to Optimize Task Scheduling in Smart Manufacturing

H. Ghorbel et al., 2021 IEEE 32nd Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)

### OctGPT: 3D mesh generation and edits with octree-based tokenization

P. Kolyvakis et al., 2025 (Manuscript in preparation)

## Languages

French

Native

English

Cambridge First Level C1

Japanese

JLPT N2 (B2-C1)

German

B1

## Interests



Escape Games



Anime & Manga



Artificial Intelligence



Weightlifting

## Projects

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### Mugiwara

[Python](#)[PyTorch](#)[PyTorch-Lightning](#)[Weights and Biases](#)[NeMo](#)[Azure](#)[HuggingFace](#)

- Evaluated and improved the MeshGPT solution, addressing identified issues. Subsequently, integrated it with the HuggingFace transformer library and further enhanced it for text-conditioned mesh generation and modification within the NeMo framework.
- Leveraged the Azure cloud platform for efficient training of multiple models. Performed meticulous logging of results on Weights & Biases to facilitate analysis and documented key findings from experimentation.

### OVR-Datasets

[Python](#)[PyTorch](#)[Kaolin](#)[Weights and Biases](#)[NeMo](#)[HuggingFace](#)

- Established a system for converting 3D meshes to USD format, enabling seamless upload to HuggingFace and facilitating their reuse as model datasets within other projects.
- Incorporated mesh captioning capabilities using render-based visual analysis with models like Llava.

### Shenlong

[Python](#)[OpenAI API](#)[PyVespa](#)[CLIP](#)[SBert](#)

- Enhanced scene generation by integrating OpenAI APIs and a Vespa-powered vector database, improving 3D mesh retrieval using SBert and CLIP similarity.
- Added functionality to export scenes in .usd format, allowing seamless interoperability with software like Unity and Blender.

### GANime

[Python](#)[TensorFlow](#)[PyTorch](#)[PyTorch-Lightning](#)[HuggingFace](#)[Docker](#)

- Developed as a Master's Thesis in collaboration with Osaka Metropolitan University a video generation model employing a frame-by-frame approach resulting in realistic motion and achieving an 85% similarity score with the ground truth data.
- Used a VQ-GAN for image generation and a GPT-2 Transformer for the next frame prediction.
- Gained practical exposure by reimplementing the model in the PyTorch framework.

### SOON-RL

[C#](#)[Unity ML-Agents](#)[Python](#)[Stable Baselines](#)[Ray RLLib](#)[Ray Tune](#)[SimPy](#)

- Developed a Reinforcement Learning model aimed at optimizing workshop production and managing machine failures, leading to a research paper published at the PIMRC 2021 conference.
- Initiated as a Bachelor's Thesis in collaboration with Tornos, this project began with Unity ML-Agents in C# and later transitioned to multi-agent training in Python with Ray RLLib.
- Enhanced the model's performance by optimizing hyperparameters and reward functions, resulting in efficient production of specific orders with a minimized number of steps.

### DL4Space

[Python](#)[PyTorch](#)[PyTorch-Lightning](#)[Scikit-Learn](#)[Docker](#)[LIME](#)[SQL](#)

- Created a deep learning-based prototype for an ESA project targeting spacecraft operations employing Explainable AI methodologies to accurately identify the root cause of anomalies.
- Achieved a 15% efficiency improvement compared to conventional methods.
- Delivered comprehensive documentation encompassing the full pipeline, from data importation and transformation to model training, facilitating ease of use and replication.

### Estigrappe3D

[Python](#)[PyTorch](#)[PyTorch-Lightning](#)[Scikit-Learn](#)[Docker](#)

- Actively involved in a collaborative project with Changins, a University of Viticulture and Oenology, focusing on the estimation of grape volume and weight utilizing images with corresponding depth maps.
- Assessed and validated previous work for accuracy, while implementing standard data science methodologies.
- Enhanced project outcomes by extracting and leveraging cloud points from depth maps.