



# Jorrit van Gils

## Machine Learning Engineer

### Summary

Computer Vision and Large Language Models Engineer with five years of production experience at Bittensor and BOX21. Currently pursuing a PhD at the Computer Vision Group, Friedrich-Schiller-University Jena under supervision of Prof. Dr. Joachim Denzler. Continuously expanding my expertise through AI literature study and Kaggle competitions. A collaborative team player who values knowledge sharing and collective growth.

### Work Experience

- 2026–present **PhD Researcher**, *Friedrich-Schiller-University Jena*, Germany  
LEPMON Project: Optimizing moth detection algorithms and biodiversity monitoring. Member of ELLIS Unit Jena – European AI research network
- 2024–2026 **Open-Source Contributor**, *Bittensor*  
Developing federated learning AI training protocols at the AI-blockchain intersection
- 2021–2024 **Computer Vision Developer**, *BOX21*  
Developing object detection models and maintaining frontend-, backend systems
- 2023 **Fathomnet competition competitor**, *Kaggle*  
Detecting and classifying marine species in underwater images with Sean Nachtrab
- 2016–2019 **Biology Teacher**, *De Nassau*, Breda, NL  
Teaching biology to students in lower- and higher general secondary education

### Education

- 2026–present **PhD Candidate, Computer Vision**, *Friedrich-Schiller-University Jena*  
Ongoing – Moth recognition and biodiversity monitoring
- 2019–2022 **MSc Forest and Nature Conservation**, *Wageningen University, NL*  
Specialization Artificial Intelligence: Program. Python, Machine Learning, Deep Learning. Thesis: Wildlife behaviour recognition from camera-trap imagery (YOLOv5, pose estimation)

### Computer skills

Computer Vision	YOLO, ResNet, ViT, Vision Language Models, CLIP, SAM, Diffusion Models, DINO, Pose Estimation, DeepLabCut	Foundations	Mathematics, Linear Algebra, Statistics, AdamW, Cross Entropy, MSE, semi-supervised, uncertainty, semantics
Frameworks	PyTorch, Torchvision, Timm, TensorFlow, Keras, FastAi, Pandas, NumPy	Federated NLP Training	Transformers, Llama, TorchTitan, Tokenizers, FSDP, DDP, Quantization, Parallelism
Tools	HuggingFace, WandB, Docker, GitHub, Just, Linux, InfluxDB	Web Development	FastAPI, WebSockets, SQL, JavaScript, Vue.js, RabbitMQ
Languages	Python, Rust, R, Bash		

### Languages

Languages Dutch (C2), English (C2), Spanish (C1), German (B1)