

ANDREA ARIGLIANO

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(+39) 3883814655 [◇ Modena, IT](#)

Software Engineer specialised in Artificial Intelligence and algorithm development

EXPERIENCE

AI Software Engineer

Modena, IT • 11/2021 - Current

VST s.r.l. IppocraTech

- Developed algorithms and AI models for non-invasive vital parameters detection from ECG and PPG time-series improving accuracy by more than 20% over existing company models. The most notable are:
 - Arterial blood pressure estimation using an ensemble of ML models such as LightGBM and custom feature extraction correlating PPG and ECG signal waveforms.
 - Arrhythmias onset prediction and waveform type classification with a low-power model that can run real-time on resource-constrained devices.
 - Respiratory rate measurement creating an algorithm which uses PPG frequency and waveform components.
- Designed custom MLOps pipeline with MLFlow and DVC which covers the whole machine learning process from data collection and versioning towards model deployment.
- Deployed AI models on multiple platforms ranging from embedded devices to mobile phones and cloud infrastructures using ONNX graphs, JIT and TorchScript.

AI Research Scientist

Helsinki, FI • 08/2024 - 12/2024

University of Helsinki - Systems Biology of Drug Resistance in Cancer

- Researched and developed a novel graph-based AI model for cancer prognosis using multi-omic data integration in PyG and DGL surpassing SOTA performance by 7%.
- Implemented interpretability and explainability techniques like integrated gradients and heterogeneous graph visualization for biomarker identification and improved clinical decision-making.

EDUCATION

Master's Degree in Artificial Intelligence Engineering

University of Modena and Reggio Emilia — Grade: 110/110 Cum Laude

09/2022 - 12/2024

Bachelor's Degree in Computer Engineering

University of Modena and Reggio Emilia — Grade: 109/110

09/2019 - 07/2022

SKILLS

Programming Languages

Python, C, C++, Java, Dart, R, SQL

Artificial Intelligence

PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas

Cloud & MLOps

AWS, Terraform, Docker, MLFlow, DVC, Data Lake and Data Warehouse

Languages

Italian, English (C1)

PUBLICATIONS

- "[Computation Efficient ECG Classification on Resource Constrained Devices](#)", 2023 IEEE International Conference on Pervasive Computing Workshops, Atlanta, GA, USA, 2023, A. Arigliano, A. Malagoli, L. Bedogni
- "[A Comparative Study of LightGBM on Air Quality Data Across Multiple Locations](#)", 2024 CEUR Workshop Proceedings, Ital-IA Thematic Workshops, Ital-IA, 2024, A. Arigliano, M. Casari, L. Po

RELEVANT PROJECTS

AiRL-Hockey: Anthropomorphic robot manipulator for autonomous Air Hockey play using Reinforcement Learning.

FocusedFormer: Transformer-based model for heart rate estimation from facial recordings (rPPG).

WFlow: End-to-end IoT system for real-time water and gas consumption monitoring and future prediction.

OptiDOS: Optimised Distributed Ordered Slicing on graphs for consistent resource allocation.