

# VAIRO DI PASQUALE

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**AI/ML Engineer** and **Artificial Intelligence** graduate having 6+ yrs **development** experience.  
40% of my first name is already “AI”, isn’t it enough?

## EXPERIENCE

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### AI/ML Lead Software Engineer

August 2023 – Present

*Scalestack*

*Remote*

- Leading the AI Engineering team, focusing on the integration of cutting-edge AI/ML and LLMs technologies
- Architected and implemented an MLOps pipeline, streamlining the deployment and management of ML and NLP models into production environments.
- Collaborated with cross-functional teams and stakeholders to define functional requirements, and led the effort in fine-tuning and training AI models to exceed performance benchmarks.
- Engineered, customized, and deployed a software co-pilot for sales reps, utilizing open and closed-source LLMs.
- Maintained and optimized production AI/ML models, implementing monitoring metrics to ensure consistent quality and performance according to company standards.
- **Skills:** Python, PyTorch, TensorFlow, LangChain, LlamaIndex, AWS, Docker

### AI/ML Consultant/Developer

February 2023 – Present

*Contractor*

*EU/US*

- Developed ML tools and led AI initiatives, streamlining adoption and deployment in enterprises.
- Expert in computer vision and large language models, applying tailored solutions for digital transformation.
- Technically proficient in PyTorch, Tensorflow, AWS, GCP, Docker, Kubernetes, and more.
- Fostered effective collaborations between stakeholders and tech teams, enhancing project efficiency.
- Key projects include AI tools, large language models, and computer vision solutions across industries.
- Enabled AI/ML adoption, positively impacting enterprises of varying scales.

### Machine Learning Software Engineer

January 2023 – August 2023

*Polar Frequency*

*Remote*

- Responsible for developing and maintaining Machine Learning, Deep Learning, and Natural Language Processing microservices in my AI team.
- **Skills:** Python, Transformers, TensorFlow, PyTorch, Huggingface, OpenAI, LangChain, Docker.

## EDUCATION

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### Master’s degree - Artificial Intelligence

Bologna, Italy

*Alma Mater Studiorum*

*October 2020 - Present*

- Research in Machine Learning, Deep Learning, Natural Language Processing, and Computer Vision.
- Current **GPA: 4.0** (Italian Grading: 29/30). Awarded partial fee refund due to honors.

### Exchange Student - Artificial Intelligence

Sundsvall, Sweden

*Mid Sweden University*

*January 2022 - June 2022*

- Main research topics: Natural Language Processing, Data Mining.
- Continuous exposure to ex-pats leading to the successful completion of a **C2 English** exam.

### Bachelor’s degree - Computer Science

Bologna, Italy

*Alma Mater Studiorum*

*October 2020*

- Coursework: Algorithms and Data Structures, Software Engineering, Operating Systems, Mobile App Development, Language Theory, Computability, and Complexity.
- The thesis result has supported the work that has culminated with a **peer-reviewed paper** presented at FACS 2021.

## PUBLICATIONS

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### Corinne, a Tool for Choreography Automata

October 2021

*FACS 2021: Formal Aspects of Component*

*Springer, Cham*

- Developed a major extension of *Corinne*, a Python tool for reading, composing and projection of the Choreography Automata.
- Presented at a peer-reviewed conference hosted by FACS.

## PERSONAL PROJECTS

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- Stance Prediction** | *Python, PyTorch, Transformers* April 2022 – July 2022
- NLP project about Implicit Stance Prediction on Political Debates using Speech features.
  - Different models to address the task, using BART, BERT, DistilBERT, wav2vec2 and MulT, the best of which reached an accuracy of **94,2%** on the test set.
- Fact Checking & POS Tagging** | *Python, Keras, Tensorflow, Scikit Learn* November 2021 – December 2021
- NLP tasks about verifying the reliability of some statements by comparing with a given knowledge and the process of marking up words in a text with the correspondent grammatical tag.
- AshtonTablutAgent** | *Java, Game Theory, MinMax, Tree Search* October 2021 – November 2021
- Java-based intelligent agent able to play Tablut using MinMax algorithm.
- AstroNet** | *Python, Keras, Tensorflow, Scikit Learn* June 2021 – September 2021
- Deep Learning approaches for detection and classification of astronomical sources from radio images.
  - Implementation from scratch of YOLOv4 and U-Net, with the latter reaching an accuracy of **97,3%**.
- Corinne-2** | *Python* June 2020 – September 2020
- Extends and greatly improves “Corinne”, a tool for modeling Choreography Automata.
  - Presented as a Bachelor’s Thesis and 1 year later presented as a published **peer-reviewed paper** at FACS 2021.
- ToDaily** | *Java, Android, Android Studio* May 2020 – July 2020
- Android App for managing daily tasks.

## CONTRIBUTIONS & EXTRACURRICULAR ACTIVITIES

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- Contributions in Open Source** May 2022 – Present
- Active contributor for the **LangChain**’s repo and for **OpenAI**’s Gym, Minigrid, and Procgen.*
- AI Mentor for Ideathon & GDSC Europe collaborator** September 2022 – Present
- Selected for mentoring in AI/ML for the Ideathon and GDSC Europe events. Europe*
- Google Solution Challenge** March 2022 – June 2022
- Presented **Freebye**, Android App for incentivize circular economy and waste reduction.*
- Core Member of a Google Developer Student Club** September 2021 – Present
- Managing and organizing events in a GDSC with 200+ students. Bologna, Italy*
- Online Summer School, Artificial Intelligence** June 2021 for 2 weeks
- Main topics: Robotics, Computer Vision, AI for Medical Applications. Nankai University, China*
- More Certifications** November 2021 – December 2021
- “Advanced Deep Learning with Keras” & “Data Scientist with Python” on DataCamp.*

## TECHNICAL SKILLS

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**Research field:** Deep Learning, Machine Learning, Natural Language Processing, Reinforcement Learning.

**Libraries:** SciPy (NumPy, Pandas, ...), SciKits (scikit-learn, scikit-image), Tensorflow, Keras, PyTorch, OpenAI Gym, Matplotlib, OpenCV, Flutter, LangChain, LLamaIndex.

**Technologies:** Python, Linux, Windows, Git, Node, Jupyter.

**Human Languages:** English (C2), Italian (Native), Spanish (Current Learning).