

VITTORIA PEPPOLONI

AI Student and Researcher

·jpg

EDUCATION

M.Sc. in Artificial intelligence: Cognitive Computing (2025 – 2027)

Radboud University, Nijmegen, NL

- Specialization: AI for Healthcare and Neuroscience.

B.Sc. in Artificial Intelligence (2021 – 2024)

University of Milan / University of Pavia, Milan-Pavia, IT

- Specialization: AI for Healthcare.
- Thesis: "Enhancing Business Meeting Productivity through Meet Diary: A Tool for Audio Transcription and Keypoint Extraction".
- Relevant Coursework: Computer Science, Mathematics, Physics, Statistics, Cognitive Sciences, Law and Ethics (bai.unipv.it).

EXPERIENCE

AI Researcher (Dec 2024 – present)

National Cancer Institute of Milan (INT), AIONLab, Milan, IT

- Collaborating on projects and publications at AIONLab, a joint initiative between INT and Politecnico di Milano, focusing on LLM applications in oncology bioinformatics, genomic data analysis, and clinical feature extraction.

AI Developer Intern (Sep 2023 – Dec 2023)

PwC Italy, Digital Innovation Team, Milan

- Contributed to the development of MeetDiary, an innovative tool for transforming audio and video files into actionable written summaries.
- Assisted in the creation of microservices for audio conversion, silence-based segmentation, accurate transcription, speaker verification, and sophisticated diarization.

SCIENTIFIC CONTRIBUTIONS

LLM-Driven Clinical Trial Matching for Lung Cancer Patients: An Explainable Approach (2025)

- 2nd Workshop on Explainable Artificial Intelligence for the Medical Domain (EXPLIMED) 2025. Collaborations: INT Milan, Politecnico di Milano (Mini-paper submitted)

Oncological Entity Recognition using Privacy-Preserving Large Language Models from Electronic Health Records. (2025)

- 20th Conference on Computational Intelligence methods for Bioinformatics and Biostatistics | Collaborations: INT Milan, Politecnico di Milano (Conference Abstract)

Prompting and medical expertise influence Large Language Model in clinical data extraction: findings from the APOLLO 11 trial (2025)

- World Conference on Lung Cancer (WCLC) 2025 | Collaborations: TU Dresden, INT Milan, Politecnico di Milano (Conference abstract)

Optimizing Data Collection in Clinical Trials with LLMs: The APOLLO 11 Consortium (2025)

- ASCO Annual Meeting 2025 | Collaborations: TU Dresden, INT Milan, Politecnico di Milano (Conference abstract)

Benchmarking Large Language Models for Data Retrieval in Clinical Trials: The APOLLO 11 Trial (2025)

- AI for Oncology Conference 2025 | Collaborations: TU Dresden, INT Milan, Politecnico di Milano (Best Poster Award)

430P: Privacy-preserving LLMs for automated clinical feature extraction: A real-world study in NSCLC EGFR-mutated patients

- L. Mazzeo, F. Corso, V. Peppoloni, et al. | Journal of Thoracic Oncology, vol. 20, suppl. 3, S249, 2025. (Conference abstract for ELCC 2025)

PROJECTS

LLM-On-Hub (2025)

- Developed LLM-On-Hub interface with the service LungTrial-LLMX, an LLM-based system for automatic extraction of clinical features from EHRs and matching patients with clinical trials. Later expanded the interface by implementing two additional modules, supervising two AI BSc thesis students:
 - Timeline extraction: Extracting events from EHRs and defining the best response based on CT scan data.
 - Medication extraction: Extracting medication information with a focus on explainability.
- Core technologies: Flask, Ollama

Neuromorphic Computing (2024)

- Designed and implemented a computational model of neural networks using STDP and the Izhikevich model.
- Investigated synaptic plasticity and delay-dependent cognitive processing.

AI-Powered Machine Translator (2023)

- Developed a machine translation model using RNNs (GRU, LSTM) and later optimized with Transformers. (github.com/MT).

Crime Prediction with AI (2023)

- Built a predictive analytics tool for crime occurrences, leveraging machine learning models (github.com/Crime).

EXTRACURRICULAR ACTIVITIES

Emergency Medical Rescuer (2018 - present)

Italian Red Cross, Milan

Certified emergency responder in ambulance pre-hospital care, leading a team of volunteers. Provided medical assistance at large-scale events (e.g., San Siro Stadium).

Teen Educator (2018 - 2022)

Scout CNGEI, Milan

Designed educational programs on leadership, teamwork, and survival skills for teenagers.

Chess Player in National Team (2008 - 2018)

Federazione Scacchistica Italiana, Milan

Represented Italy internationally, winning Vice National Champion of Italy (2014, Terrasini CGS).

SKILLS

AI

Natural Language Processing, Machine Learning, Deep Learning, Convolutional Neural Networks, Recurrent Neural Networks, Large Language Models, PyTorch, TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib.

Tech Skills

Azure DevOps, Git, Google Cloud Platform, Pub/Sub, Firestore, Python, R, MATLAB and SQL.

LANGUAGES

Italian: Native, **English:** C1.