

Ettore Magni

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EDUCATION

Imperial College London MEng in Biomedical Engineering - <i>Awarded First Class Honours</i> Overall Result: 70%	London, UK <i>Sep 2021 - Jul 2025</i>
Lycée Victor Hugo of Florence <i>Baccalaureate Français</i> - Awarded Mentions "Très Bien" (Honours). 17/20 - Spécialités: Math 18.50/20, Physics and Chemistry 16.40/20 - Awarded Best Student of the Cohort, achieving the highest grade	Florence, Italy <i>Sep 2017 - Jun 2021</i>

EXPERIENCE

AWEAR Technologies <i>Machine Learning Research Intern</i> - Designed machine-learning models for automatic sleep staging from single-channel wearable EEG, combining pretrained deep-learning systems with a personalized spectral-temporal classifier. - Achieved 72.8% four-stage accuracy and 70.7% balanced accuracy under rigorous leave-one-night-out evaluation, substantially outperforming zero-shot baselines. - Owned the cross-device validation against Sleep Profiler, identifying reproducible neural signatures of Deep sleep and translating the findings into scientific evidence for an ARPA-H proposal.	<i>Jul 2026 – Present</i>
EMG-GPT Research Project - collaboration with Imperial College London researchers <i>ML Researcher – Foundation Models for Biosignals</i> - Developed a 40.5M-parameter autoregressive Transformer for learning hierarchical representations from 16-channel, 2-kHz sEMG. - Built a reproducible PyTorch and Slurm research pipeline for large-scale experiments on Isambard-AI. - Demonstrated transfer to hand-pose estimation on unseen users, achieving 12.8° Regression and 8.9° Tracking MAE. - First-authored a NeurIPS workshop paper currently under review.	<i>Jun 2026 – Present</i>
Corticale srl <i>Data Engineer Intern - Invasive ePhys (1024-channel HD recordings)</i> - Built Python pipelines for preprocessing, windowing, and feature extraction on 1024-channel invasive ePhys time-series data. - Improved automated bad-channel detection/QC for 1024-channel recordings, reducing manual review and increasing reliability. - Refined atlas-based channel-to-region mapping with unsupervised learning to handle subject/session variability for consistent region-level aggregation.	Genova, Italy <i>Oct 2025 – Jan 2026</i>
Imperial College London Research Lab <i>Reinforcement Learning-Driven FES System Translation</i> - Translating an advanced FES system from lab to clinical use, focusing on robustness, usability, and reproducible iteration (Git version control). - Adapted a deep learning-based pose estimation system for precise patient movement tracking. - Collaborated with patients to refine the system and optimize reinforcement learning for smoother stimulation. - Supervised by Prof. Aldo Faisal, a leading expert in AI, neurotechnology and BCI.	London, UK <i>Sep 2024 – Jun 2025</i>
Imperial College London Research Lab <i>Helmet Design for Brain Injury Prevention in Cycling Project</i> - Specialized in the mechanics modeling of helmet impacts, focusing on simulating head rotation to understand mTBI mitigation strategies. - Created detailed mesh models to examine the influence of helmet geometry on impact forces, maintaining reproducible iterations via Git version control. - Applied mechanical models to interpret HEXR's empirical data, directly contributing to the optimization of cycling helmet technologies for enhanced safety.	London, UK <i>Sep 2023 – Jul 2024</i>
Imperial College London Research Lab <i>MRI Visualizer for Medical Imaging Project</i> - Engineered a DICOM to PNG converter using C# within Unity for seamless medical imaging integration, facilitating 3D XR visualization. - Spearheaded volume rendering via custom C# shaders, enhancing anatomical analysis in breast MRI scans. - Enabled interactive XR features for HoloLens, optimizing diagnostic engagement. - Navigated Unity's version control complexities, promoting robust collaboration and tool performance.	London, UK <i>Nov 2023 - Jan 2024</i>

SKILLS AND INTERESTS

Languages: English (Bilingual Proficiency), French (Bilingual Proficiency), Italian (Native).

Technical Skills: Python (Proficient: NumPy, Pandas, SciPy, scikit-learn, PyTorch), REST APIs (authentication, JSON, pagination, error handling), SQL (Intermediate), MATLAB (Intermediate), SolidWorks (Intermediate), Microsoft Office (Advanced).

Interests: Reading Maths and Philosophy Books, Japanese Culture, Surfing: Involved in 3 surfing competitions.