



LORENZO TUMMINELLO

Data Scientist | AI Specialist | Neuropsychologist

My Contact

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Hard Skills

- Python
- Machine Learning
- Deep Learning
- Natural Language Process
- Data Visualization
- SQL
- Git
- Docker



Soft Skills

- Project Management
- Decision making
- Teamwork
- Problem Solving
- Learning Agility

Languages



Education Background

- **Master in Big Data Analytics and AI for Society**
Jan 2023 - Jan 2024
University of Pisa
Final Project: "Indò tu vai?" ([link to the website](#))
- **Master in Clinical Neuropsychology**
Completed in 2020
European University of Roma
- **Master Degree in "Clinical Psychology"**
Completed in 2018
University of Padova
- **Bachelor Degree in "Science and Techniques in Psychology"**
Completed in 2015
University of Milano-Bicocca

Summary

Professional experience with three years in **AI research** for medical applications. Advanced **Python Programming Skills** and Deep Understanding of Statistical Methodologies for **Data Analysis** and AI Solutions. Proficient in managing **European projects**. Background in neuropsychology with a significant emphasis on psychometrics. Having successfully completed my second-level master's in Big Data Analysis and AI for Society at the University of Pisa, further elevating my proficiency in this field. Currently employed at Kode, one of the leading companies in Pisa specializing in AI solutions and IT innovation, where I contribute to the development of cutting-edge technologies and data-driven solutions for various industries.

Professional Experience

• Data Scientist

KODE srl - Pisa
2024 - Present

- Driving innovation in Computer Vision, geolocation models, and predictive analytics for industrial applications. Focused on optimizing AI model efficiency and developing cutting-edge solutions to enhance automation, decision-making, and operational performance.

• Data Analyst

ImagingLab - University of Pisa
2023 - 2024

- Engaged in researching the application of Artificial Intelligence methods to medical images, focusing on predicting the diagnosis and progression of oncological diseases.

• Data Science Intern

FREEDA Media Milan S.p.a
2023 - 2024

- Trained neural networks for image classification using **PyTorch**, and Transfer Learning techniques in a Computer Vision project focused on Product Detection and Classification OCR for Text Extraction
- Integrated **OpenAI APIs** for text classification.
- **Flask Framework** Web App Development

• Research Fellow

University of Pisa
2021 - 2023

- Research activities on topics related to the application of Artificial Intelligence techniques to medical images for predicting the diagnosis and progression of oncological diseases.
- Internally managed and coordinated 5 European Horizon projects. (PRIMAGE, CHAIMELEON, EUCANIMAGE, PROCANCER-I, EUCAIM)
- Coordinated and managed 1 Regional Health Call 2022 project (NAVIGATOR)

● Neuropsychologist

AISM - Italian Multiple Sclerosis Association

2020 - 2021

- Neuropsychological assessments and designing cognitive training programs for individuals with multiple sclerosis

● Psychologist Visitor

The Neurology Clinic at Padova Hospital.

2019-2020

- Collaboration in research activities at the Neurology Clinic.
- Data collection and statistical analysis for scientific work.
- Conducting interviews and neuropsychological assessments of patients with Multiple Sclerosis.

● Professional Internship for Professional Qualification

ISRAA - Institute for Hospitalization and Assistance to the Elderly

2018-2019

- Administered neuropsychological assessments at the Dementia Specialist Center, scored tests, interpreted statistical results clinically, and prepared reports.
- Collaborated on the Alzheimer's Home High Protection Service (SAPAD) project for ecological and digital cognitive stimulation interventions.

● Audio-Visual Laboratory Technician

University of Milano-Bicocca

2014 - 2015

- Managed the laboratory and supervised materials.
- Conducted maintenance of laboratory devices.
- Converted and edited videos.

Independent Courses

- Deep Learning Specialization by Andrew NG (by Coursera)
- Machine Learning Specialization by Andrew NG (by Coursera)
- Data Scientist with Python (by DataCamp)
- Stanford Artificial Intelligence Course (by Udacity)
- Management and reporting of projects funded under the Horizon Europe projects by EU CORE - European Cooperation in Research and Education
- International English For Speakers Of Other Languages (IESOL) Communicator B2

Awards

- 2nd Prize to the **BRACCO AI contest** 2023: Connecting Dots Contest of the European Society of Medical Imaging and Informatics

Personal Projects

Automatic Trading Algorithm Developer for Forex Market

- Developed an advanced automated trading algorithm for the Forex market using Python, designed for efficient and adaptable trading. The algorithm autonomously analyzes markets, uses financial indicators to identify entry signals, and integrates with the MT5 platform to execute trades. It includes a web scraping module to exclude high-volatility markets based on data from Investing.com.
- The strategy was created with the expertise of Stefano Sbrana, Vincenzo Ferri and Andrea Cominotto.

Project “Indò tu vai?”

- Developed a personalized tourism tool for individuals with disabilities to enable them to visit Florence with crucial information on accessibility of the city points of interest.
- Programming Language and Tools: Python, SQL, Web Scapring, Streamlit.
- Link: <https://masterbigdata.it/sites/default/files/projects/2022-2023/indotuvai/>

Quiz Boating License App

- Developeped an Application for taking official quizzes to obtain the Italian Nautical License.
- Programming Language: Python

CleanerSea NFT

- Creation of Artistic NFTs (Non-Fungible Tokens) aimed at raising awareness about the environmental impact of plastic.
- Link: <https://opensea.io/collection/cryptoseacleaner>

International Publications:

The journey from natural language processing to large language models: key insights for radiologists.

Fanni, S. C., Tumminello, L., Formica, V., Caputo, F. P., Aghakhanyan, G., Ambrosini, I., Francischello, R., Faggioni, L., Cioni, D., & Neri, E.

Journal of Medical Imaging and Interventional Radiology, 11(1). 2024 <https://doi.org/10.1016/j.ejro.2022.100429>.

Optimizing radiomics for prostate cancer diagnosis: feature selection strategies, machine learning classifiers, and MRI sequences

FMylyona, E., Zaridis, D. I., Kalantzopoulos, C. N., Tachos, N. S., Regge, D., Papanikolaou, N., Tsiknakis, M., Marias, K., ProCAncer-I Consortium, Mylyona, E., Zaridis, D., Kalantzopoulos, C., Tachos, N. S., Regge, D., Papanikolaou, N., Tsiknakis, M., Marias, K., Fotiadis, D., Sfakianakis, S., ... Fotiadis, D. I.

Insights into Imaging, 15(1), 2024 <https://doi.org/10.1016/j.ejro.2022.100429>.

Advancing Pediatric Sarcomas through Radiomics: A Systematic Review and Prospective Assessment Using Radiomics Quality Score (RQS) and Methodological Radiomics Score (METRICS)

Aghakhanyan, G.; Filidei, T.; Febi, M.; Fanni, S.C.; Marciano, A.; Francischello, R.; Caputo, F.P.; Tumminello, L.; Cioni, D.; Neri, E.; et al.

Diagnostics 2024, 14, 832. <https://doi.org/10.3390/diagnostics14080832>

Accuracy of Radiomics in predicting IDH mutation status for glioblastoma diagnosis: a bivariate meta-analysis

Di Salle, G., Tumminello, L., Laino, M. E., Shalaby, S., Aghakhanyan, G., Fanni, S. C., Febi, M., Shortrede, J. E., Miccoli, M., Faggioni, L., Cosottini, M., & Neri, E.

Radiology. Artificial intelligence 2024, 6(1), e220257. <https://doi.org/10.1148/ryai.220257>

Endometrial Cancer Staging: Is There Value in ADC?

Moreira ASL, Ribeiro V, Aringhieri G, Fanni SC, Tumminello L, Faggioni L, Cioni D, Neri E. Journal of Personalized Medicine. 2023; 13(5):728. <https://doi.org/10.3390/jpm13050728>

A first look into radiomics application in testicular imaging: A systematic review

Fanni SC., Febi M., Colligiani L., Volpi F., Ambrosini I., Tumminello L., Aghakhanyan G., Aringhieri G., Cioni D., Neri E.

Frontiers in Radiology 2023; 3. <https://www.frontiersin.org/articles/10.3389/fradi.2023.1141499>

Bridging gaps between images and data: a systematic update on imaging biobanks.

Gabelloni M, Faggioni L, Borgheresi R, Restante G, Shortrede J, Tumminello L, Scapicchio C, Coppola F, Cioni D, Gómez-Rico I, Martí-Bonmatí L, Neri E.

Eur Radiol 32, 3173–3186 (2022). <https://doi.org/10.1007/s00330-021-08431-6>

Usefulness of MRI-based radiomic features for distinguishing Warthin tumor from pleomorphic adenoma: performance assessment using T2-weighted and post-contrast T1-weighted MR images.

Faggioni L, Gabelloni M, De Vietro V, Frey J, Mendola V, Cavallero D, Borgheresi B, Tumminello L, Shortrede J, Morganti R, Seccia V, Coppola F, Cioni D, Neri E.

European Journal of Radiology Open 2022; 9. <https://doi.org/10.1016/j.ejro.2022.100429>.

NAVIGATOR: an imaging biobank to precisely prevent and predict cancer, and facilitate the participation of oncologic patients to diagnosis and treatment.

Borgheresi R, Barucci A, Colantonio S, Aghakhanyan G, Assante M, Bertelli E, Carlini E, Carpi R, Caudai C, Cavallero D, Cioni D, Cirillo R, Colcelli V, Dell'Amico A, Di Gangi D, Erba PA, Faggioni L, Falaschi Z, Gabelloni M, Gini R, Lelii L, Liò P, Lorito A, Lucarini S, Manghi P, Mangiacrapa F, Marzi C, Mazzei MA, Mercatelli L, Mirabile A, Mungai F, Miele V, Olmastroni M, Pagano P, Paia F, Panichi G, Pascali MA, Pasquinelli F, Shortrede JE, Tumminello L, Volterrani L, Neri E; NAVIGATOR Consortium Group. NAVIGATOR Eur Radiol Exp. 2022 Nov 8;6(1):53. doi: 10.1186/s41747-022-00306-9.

Other Publications

NFT - Creative Freedom in the Metaverse

PLATFORM - Numero 36 - Anno VII - 2022 Platform Networks Srl, Milano
Alfuso L., Tumminello L., Battaglin L., Cominotto A., Cattoi L.

Metaverse. First steps into the future.

PLATFORM - Numero 35 - Anno VII - 2022 Platform Networks Srl, Milano
Alfuso L., Tumminello L., Battaglin L., Cominotto A., Cattoi L.

Metaverse, a new world for Architecture?

PLATFORM - Numero 34 - Anno VII - 2022 Platform Networks Srl, Milano
Alfuso L., Tumminello L., Battaglin L., Cominotto A., Cattoi L.