PASQUALE LOBASCIO

E-mail: pasquale.lobascioo@gmail.com
Location: Helsinki, Finland
Hugging Face: https://huggingface.co/IlPakoZ
Website: https://ilpakoz.github.io/
Phone: +39 3931333141
ORCID: 0009-0002-6551-6326
GitHub: https://github.com/IlPakoZ/

EDUCATION

Master of Science in Life Science Informatics | September 2023 - July 2025

University of Helsinki, Finland | *4.59/5 GPA*

- Thesis: "DLRNA-BERTa: A transformer approach for RNA-drug interaction prediction"
- Supervisor: Dr. Ziaurrehman Tanoli, principal investigator

Bachelor of Science in Computer Science | September 2019 - October 2022

Sapienza University of Rome, Italy | *29.11/30 GPA, final grade 110/110 cum laude (with honors)*

- Thesis: "Repositioning of pharmacological therapies through graph mining approaches"
- Supervisor: Prof. Dr. Velardi Paola

RESEARCH AND WORK EXPERIENCE

Participation in a Drug Discovery International Competition | May 2025 - June 2025

SYNAPSE DREAM Target 2035 Drug Discovery Challenge | *Online*

- Collaborated on sparse data (fingerprint) handling for target binding prediction
- Contributed to team coordination and project management under competitive deadlines
- Applied unsupervised and supervised learning techniques to highly dimensional pharmaceutical challenge datasets

Graduate Student Researcher | November 2024 - July 2025

In-Silico Drug Discovery, Institute for Molecular Medicine Finland (FIMM) | Helsinki, Finland

- Developed DLRNA-BERTa, a transformer-based model for RNA-drug binding affinity prediction
- Developed and fine-tuned RNABERTa and ChemBERTa-v2 models using state-of-the-art techniques
- Processed large-scale RNA and chemical datasets in memory-constrained environments
- Achieved significant performance improvements through systematic hyperparameter optimization
- Conducted virtual screening for RNA-targeted drug discovery across multiple RNA classes
- Performed the reading, understanding, developing and writing of an academic text
- Maintained git version control and released the model openly on Hugging Face

Freelance Programming Tutor | June 2023 - October 2023

Schoolr | *Online*

- Tutored university students in multiple programming languages (C, C++, Java, Python)
- Developed personalized learning materials and problem-solving strategies

Undergraduate Bachelor's Thesis Work | February 2022 - October 2022

Repositioning of pharmacological therapies, a graph mining approach | *Rome, Italy*

- Applied graph mining techniques to identify drug repurposing candidates
- Performed proximity analysis and functional enrichment using the human interactome
- Utilized bioinformatics tools (Metascape, Reactome) for pathway and gene set enrichment analysis
- Reading, understanding, developing and writing academic text

PUBLICATIONS

Lobascio, P. et al. "DLRNA-BERTa: A transformer approach for RNA-drug binding affinity prediction." *bioRxiv* (2025). doi: 10.1101/2025.09.05.674445

TECHNICAL SKILLS

Programming: Python, R, Java, C, Machine learning & Deep learning, Pytorch, scikit-learn, LoftQ

Bioinformatics: RNAseq data analysis, structural bioinformatics

Data: Large-scale data processing, PostgreSQL, Git version control, SLURM-based high-performance computing, Docker

Other: Linux/Windows usage, basic statistical analysis

CERTIFICATIONS

Coursera KodeKloud Docker for Beginners with Hands-on labs (2025)

Cambridge English C1 Advanced | Grade A (C2 level) | Verification: C0486994 (2022)

Entrepreneurial Skills Pass Certificate (2019)

CCNA Routing and Switching | Cisco Networking Academy (2018)

IT Essentials | Cisco Networking Academy (2018)

SCHOLARSHIPS, AWARDS, PRIZES

"Io Merito" Prize | Rotary Club (2019)
Monetary award for achieving the highest final grade in high school

DiscoLazio Regional Scholarship | Lazio Region (2019-2021)
Subsidized university accommodation for high academic performance

DiscoLazio Graduation Prize | Lazio Region (2022)
Money prize for graduating with high GPA

Regional competition "Giochi della Chimica" - 2nd Place | Società Chimica Italiana, Apulia (2016)
Silver medal in regional high-school chemistry competition with admission to nationals (17th place)

LANGUAGES

Italian: Native

English: C1 level (Cambridge Advanced Certificate) – Grade A: C2

RESEARCH INTERESTS & CAREER GOAL

My research and career focus on applying artificial intelligence and computational methods to drug discovery and precision medicine. I am particularly interested in:

- AI-driven (machine learning, deep learning, computer vision) biomedical applications
- Drug discovery, repurposing, and cheminformatics
- In-silico modeling and simulations
- Reinforcement learning, genetic programming and simulations
- Computational pharmacology and systems medicine
- Neuroinformatics, brain computer interfaces
- AI applications in neuroscience, psychology or psychiatry
- Clinical data mining and personalized medicine approaches
- Natural language processing for biomedical literature and data
- Applications of AI in other scientific fields

I seek to contribute to pharmaceutical innovation through interdisciplinary research that combines advanced computational methods with deep biological understanding, ultimately advancing therapeutic breakthroughs for human health.

OTHER CREATIVE WORK

"La cornice sensazionale. Il dolore dell'innocente cantato senza musica", poetry book (2020).

ADDITIONAL INFORMATION

Open science advocate: Committed to reproducible research and open-source contributions (HuggingFace model sharing)

Leadership experience: Natural coordinator in collaborative projects with strong strategic planning abilities

Continuous learning: Self-taught programmer from age 10, with demonstrated ability to rapidly acquire new technical skills

Make a difference: I am strongly interested in projects that can have a concrete impact on society and the future of humanity.