

## ABOUT ME

I am a PhD student in Computer Science & Engineering at the **University of Bologna**.

My main focus is on **Integrated Methodologies for Optimization, Constraint Reasoning, and Machine Learning**, but I have been exploring as well other AI domains such as Fairness and Creativity.

In my free time, I also play in an electropop duo. We are called **Divinae Miranda** and you can listen to our songs [here](https://open.spotify.com/intl-it/artist/2wvpQCjOmseuzCLC9orKpn?si=px_O1STORbipCWJEeLZpXQ) ([https://open.spotify.com/intl-it/artist/2wvpQCjOmseuzCLC9orKpn?si=px\\_O1STORbipCWJEeLZpXQ](https://open.spotify.com/intl-it/artist/2wvpQCjOmseuzCLC9orKpn?si=px_O1STORbipCWJEeLZpXQ)).

## WORK EXPERIENCES

Academic Internship 02/2019 - 05/2019  
University of Bologna

- Development and test of a multi-agent simulation engine
- Employment of the engine to simulate biochemical experiments

Professional Stage 06/2015 - 07/2015  
Loccioni Group, Angeli di Rosora (AN)

- Development of a web application with AngularJS

## OPEN SOURCE PROJECTS

[Moving Targets](https://github.com/moving-targets/moving-targets) (<https://github.com/moving-targets/moving-targets>) - A Library for Constrained Machine Learning based on Bi-level Decomposition

[Another Genetic Circuit Transcriber](https://github.com/AGCT-DSL/AGCT) (<https://github.com/AGCT-DSL/AGCT>) - A Domain-Specific Language for the Definition of Gene Regulatory Networks

[Interactive Benchmark Library](https://github.com/giuluck/benchmark-library) (<https://github.com/giuluck/benchmark-library>) - A Library to define and use Common Benchmarks for Sequential Decision-Making and other Computational Tasks.

[Causalgen](https://github.com/giuluck/causalgen) (<https://github.com/giuluck/causalgen>) - A Causal-based Utility for Data Generation

[Powerplantsim](https://github.com/giuluck/powerplantsim) (<https://github.com/giuluck/powerplantsim>) - A Graph-based Simulator for Power Plants

[Epidemic Model Learning](https://github.com/mazzio97/EpidemicModelLearning) (<https://github.com/mazzio97/EpidemicModelLearning>) - An Analysis of Covid Data using Machine Learning and Mathematical Programming

[Deep Comedy](https://github.com/mazzio97/DeepComedy) (<https://github.com/mazzio97/DeepComedy>) - A Transformer-based Neural Architecture aimed at reproducing the Style of the Divine Comedy

[Gangster SQuAD](https://github.com/giuluck/Gangster-SQuAD) (<https://github.com/giuluck/Gangster-SQuAD>) - A NLP system for Question Answering Tasks

[loTrace](https://github.com/mazzio97/loTrace) (<https://github.com/mazzio97/loTrace>) - Prototype of a Contact Tracing app built with IOTA

[Paku Paku](https://github.com/giuluck/PakuPaku) (<https://github.com/giuluck/PakuPaku>) - A One-Vs-One Pacman developed in C++ using OpenGL Primitives

[Snailysis](https://github.com/mazzio97/Snailysis) (<https://github.com/mazzio97/Snailysis>) - A Level-based Platform Game with a Weird Focus on Calculus

# Luca Giuliani

Data & Computer Scientist



## EDUCATION

**PhD in Computer Science**  
University of Bologna  
11/2021 - Ongoing

**MSc in Artificial Intelligence**  
University of Bologna  
09/2019 - 07/2021

**BSc in Computer Science**  
University of Bologna  
09/2016 - 10/2019

**High School**  
Liceo Scientifico L. Da Vinci, Jesi (AN)  
09/2011 - 07/2016

## LANGUAGES

Italian (Native)

English (C1 Level)

## INTERESTS

[Music Production](https://linktr.ee/divinae.miranda)  
(<https://linktr.ee/divinae.miranda>)

## PUBLICATIONS

- [Generalized Disparate Impact for Configurable Fairness Solutions in ML](https://proceedings.mlr.press/v202/giuliani23a.html) (<https://proceedings.mlr.press/v202/giuliani23a.html>)  
*L. Giuliani, E. Misino, M. Lombardi*  
ICML, 2023
- [Towards Symbiotic Creativity: A Methodological Approach to Compare Human and AI Robotic Dance Creations](https://www.ijcai.org/proceedings/2023/644) (<https://www.ijcai.org/proceedings/2023/644>)  
*A. De Filippo, L. Giuliani, E. Mancini, A. Borghesi, P. Mello, M. Milano*  
IJCAI, 2023
- [MusiComb: a Sample-based Approach to Music Generation Through Constraints](https://www.computer.org/csdl/proceedings-article/ictai/2023/427300a194/1T3dgtSctcQ) (<https://www.computer.org/csdl/proceedings-article/ictai/2023/427300a194/1T3dgtSctcQ>)  
*L. Giuliani, F. Ballerini, A. De Filippo, A. Borghesi*  
ICTAI, 2023
- [Towards Intelligent Music Production: A Sample-based Approach](https://ceur-ws.org/Vol-3519/paper5.pdf) (<https://ceur-ws.org/Vol-3519/paper5.pdf>)  
*L. Giuliani, A. De Filippo, A. Borghesi*  
CREAI @ AIxIA, 2023
- [A Multi-modal Perspective for the Artistic Evaluation of Robotic Dance Performances](https://ceur-ws.org/Vol-3278/short3.pdf) (<https://ceur-ws.org/Vol-3278/short3.pdf>)  
*L. Giuliani, A. De Filippo, A. Borghesi, P. Mello, M. Milano*  
CREAI @ AIxIA, 2022
- [A Geometric Framework for Fairness](https://ceur-ws.org/Vol-3523/paper9.pdf) (<https://ceur-ws.org/Vol-3523/paper9.pdf>)  
*A. Maggio, L. Giuliani, R. Calegari, M. Lombardi, M. Milano*  
AEQUITAS @ ECAI, 2023

## SKILLS & PROFICIENCY

### Machine Learning



### Logistics & Solvers



### Software Development



### Music Composition



### Music Production

