

# Desiree MANICARDI

*PhD candidate in “Computer Science and Computational Mathematics”*

Varese, Italy

✉ [desiree.manicardi@gmail.com](mailto:desiree.manicardi@gmail.com)

🌐 [dmanicardi.github.io](https://dmanicardi.github.io)

in [desiree-manicardi-25a654168](https://www.linkedin.com/in/desiree-manicardi-25a654168)

Updated on 2023/12/08

## Current position

from 11/2020 **PhD candidate in “Computer Science and Computational Mathematics”, University of Insubria, Varese, Italy**

- I focus my research on formal models for biological systems. I started modelling some interesting biological systems such as the Heart system via `CospanSpan(Graph)`, which is a compositional model having mathematical rigor and tailored for modelling large systems. Then, I have been working on a model to formalise a process algebra. It is user-friendly, easy to implement, and tailored for modelling biochemical reaction networks.
- Attended courses:
  - *Advanced Topics in Cryptography*;
  - *Bioinformatics*;
  - *Computational Cognitive Modeling*;
  - *Early design of Internet of Things networks towards real deployment*;
  - *Graph Labelings, Colorings and Their Applications*;
  - *Modeling and Verifying Hybrid Systems*;
  - *Systems, Modelling & Simulations*;
  - *Technologies for processing streaming data pipeline*.
- Camp: “Innovation Camp for PhD Students – Deep Dive Into Innovation and Execution” (03-05/2021).
- Public Ph.D. Scholarship for the best 6 Ph.D. applications for the XXXVI Ph.D. Cycle at the “Computer Science and Computational Science” Ph.D. course, Theoretical and Applied Sciences Department of University of Insubria, October 2020.

## Research Interests

- Categories;
- Probability;
- Timing formalisms;
- Formalisms for biological systems.

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## Education

- from 12/2016 to 07/2018 **Master Degree in Computer Science**, *University of Insubria*, Varese, Italy, 110/110 *cum laude*
- Thesis (in Italian): “Modellazione di un Pacemaker Dual Chamber in Span(Graph)”.
  - Main courses: Computer Engineering, Programming in Java and C, Models of Computation, Models for Biological Systems, Privacy and Security, Artificial Intelligence.
  - Six projects.
  - Two scholarships.
- from 09/2013 to 12/2016 **Bachelor Degree in Computer Science**, *University of Insubria*, Varese, Italy, 101/110
- Thesis (in Italian): “Progettazione e sviluppo di un'applicazione per il filtraggio di messaggi di Twitter”.
  - Main courses: Database, Privacy and Security, Coding theory, Programming in Java, Software Design, Web applications.
  - Seven projects.
  - One scholarship.

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## Experience

### Computer Science

- from 11/2017 to 05/2018 **Traineeship**, *University of Insubria*, Como, Italy  
Analysis of the Span-Cospan(Graph), focusing on timing.
- from 02/2016 to 09/2016 **Traineeship**, *University of Insubria*, Varese, Italy  
Design and development of a web application aimed at filtering tweets using Twitter API.

### Teaching activities - Didactic support (in Italian)

- A.Y. 2021-22 **Tutor for the course “Programmazione”**, *University of Insubria*, Como, Italy
- A.Y. 2020-21 **Lecturer for the course “Software Python”**, *University of Turin*, Turin, Italy  
See the program [here](#).
- A.Y. 2020-21 **Assistant for the course “Programmazione”**, *University of Insubria*, Como, Italy
- S.Y. 2020-21 **Tutor for the course “Le Basi della Scienza dei Dati”**, *“I Lincei per la Scuola” Foundation*, Milan, Italy
- A.Y. 2019-20 **Assistant for the course “Le Basi della Scienza dei Dati”**, *University of Milan-Bicocca*, Milan, Italy

S.Y. 2012-13 **Tutor for the course “Nonni su Internet”**, *Istituto Tecnico Economico Enrico Tosi*, Busto Arsizio, Italy

### Miscellaneous

from 12/2018 **Administrative employee**, *Comune di Olgiate Olona*, Olgiate Olona, Italy  
to 12/2019

from 07/2012 **Traineeship**, *Comune di Olgiate Olona*, Olgiate Olona, Italy  
to 08/2012

### Languages

Italian Native

English Upper intermediate

*First Certificate in English (CEFR Level B2)*

### Certifications

Computer **Google digital training - Fondamenti di marketing digitale**, *Google*, 06/2020

Science **Técnicas Cuantitativas y Cualitativas para la Investigación**, *EdX, Universidad Politécnica de Valencia*, 01/2019

**Data Access in C# and .NET Core**, *EdX, Microsoft*, 09/2018

**Asynchronous Programming with Javascript**, *EdX, Microsoft*, 08/2018

**Introduction to Python: Absolute Beginner**, *EdX, Microsoft*, 08/2018

**Architetture orientate ai servizi**, *University of Insubria*, 06/2018

**Sistemi organizzativi a rete**, *University of Insubria*, 06/2018

Mathematics **IGCSE Mathematics Extended**, *University of Cambridge*, 06/2013

**IGCSE Mathematics Core**, *University of Cambridge*, 06/2012

### Computer skills

#### Strenghts

Programming Java, Python

Database SQL, NoSQL

#### Basic-Intermediate

Programming C, C++, C#, API REST

Environment Eclipse, Node.js

Web HTML, PHP, CSS, JavaScript,  
JSON

Tools pgAdmin, Node-RED

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## Interests

- Genealogy Tree I found the information of an ancestor of mine born in 1768.
- Cooking I have been cooking as much time as possible since I was in middle school.
- Gardening I have had a small garden since 2019.

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## Extra

- Registered in the *Albo dei soggetti accreditati*, University of Milan-Bicocca (2020 – 2021)

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## Publications

- [1] A. Gianola, S. Kasangian, D. Manicardi, N. Sabadini, and S. Tini. Compositional modeling of biological systems in `cospanspan(graph)`. In *CEUR Workshop Proceedings*, volume 2756, pages 61–66. CEUR-WS, 2020.
- [2] Alessandro Gianola, Stefano Kasangian, Desiree Manicardi, Nicoletta Sabadini, Filippo Schiavio, and Simone Tini. `Cospanspan(graph)`: A compositional description of the heart system. *FUNDAMENTA INFORMATICAE*, 171:221–237, 2019.