ANGELA CORTECCHIA

Ph.D. enrolling student & Fellow Researcher

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Cesena, Italy

EDUCATION

Ph.D. enrolling and grant winner in Computer Science
University of Bologna
from November 1st 2024 — Cesena, Italy

M.Sc. in Engineering and Computer Science
University of Bologna
2021–2024 — Cesena, Italy
109/110
Thesis: A Kotlin Multiplatform implementation of Aggregate Computing based on XC
Supervisor: Danilo Pianini
Co-Supervisor: Nicolas Farabegoli

B.Sc. in Engineering and Computer Science
University of Bologna
2017–2021 — Cesena, Italy
Thesis: HCI Methodologies for Developing an Online Cultural Events App
Supervisor: Silvia Mirri

Undergraduate Internship
University of Bologna
10-12/2020 — Cesena, Italy
Developing an online cultural events app
Supervisor: Silvia Mirri

Accounting degree in Business and Foreign Language
ITS "A. Oriani"
2017 — Faenza, Italy

PUBLICATIONS

A. Cortecchia, D. Pianini, G. Ciatto, and R. Casadei, in "An Aggregate Vascular Morphogenesis Controller for Engineered Self-Organising Spatial Structures". In: IEEE International Conference on Autonomic Computing and Self-Organizing Systems: 5th IEEE International Conference, ACSOS 2024, Aarhus, Denmark, September 16–20, 2024.
Accepted, available soon

A. Filaseta, A. Cortecchia, and D. Pianini, in "An Architecture and Prototype for Monitoring Distributed Simulations of Distributed Systems". In: International Symposium on Distributed Simulation and Real Time Applications: 28th International Symposium, DS-RT 2024, Urbino, Italy, October 7–9, 2024.
Accepted, available soon

A. Cortecchia in "Improving the Simulation Performance for Aggregate Programs Through Compiler Plugins". In: International Symposium on Distributed Simulation and Real Time Applications: 28th International Symposium, DS-RT 2024, Urbino, Italy, October 7–9, 2024.
Accepted, available soon

A. Cortecchia in "Multiplatform Self-Organizing Systems Through a Kotlin-MP Implementation of Aggregate Computing". In: IEEE International Conference on Autonomic Computing and Self-Organizing Systems: 5th IEEE International Conference, ACSOS 2024, Aarhus, Denmark, September 16–20, 2024.
Accepted, available soon

RESEARCH CONTRACTS

Research Fellowship "A Unifying Approach to Programming Heterogeneous Devices in the Edge-Cloud Continuum"

15/02/2024 – 31/10/2024 | Cesena, Italy

"Group for Research Networks Harmonisation" Consortium GARR at DISI - University of Bologna

Supervisor: Danilo Pianini

AWARDS

Participation Grant

ACSOS 2024

5th IEEE International Conference on Autonomic Computing and Self-Organizing Systems

15 Sep 2024 | Aarhus, Denmark

ATTENDED CHALLENGES

Flash Talk Challenge

RFTC 2024

1st Researchers Flash-Talk Challenge

11 Oct 2024 | Bologna, Italy

PREVIOUS WORK EXPERIENCE

Horse Rider and Coach

Delta Team

2020–2024 | Alfonsine, Italy

Practicing horse riding at an international competitive level for several years, training and competing young horses.

Done the level "Operatore Ludico" of the Italian Equestrian Federation ("Federazione Italiana Sport Equestri" - FISE) coaching course in 2021.

PROFESSIONAL SKILLS

Programming Languages	Kotlin, Java, Scala, Javascript, Typescript, C, Bash, Python, PHP, Sql, Prolog
Other Languages	Markdown, YAML, LaTeX, HTML, CSS, XML, JSON
Technologies	Git, Docker, Angular, Android, Vue, Svelte, MEAN
Programming Paradigms	Object Oriented Programming, Functional Programming, Aggregate Programming, Logic Programming, Event Driven Programming
Project Management	Scrum, Agile

PORTFOLIO

Collektive

github.com/Collektive

10/2023–now

Collektive: A Kotlin Multiplatform implementation of Aggregate Computing based on XC. The project was extended for academic purposes for the Master Degree Thesis.

Language: Kotlin

Keywords: Domain Specific Language, Aggregate Computing, Field Calculus, eXchange Calculus

VMC-experiments

github.com/angelacorte/vmc-experiments
03–05/2024

This artifact was born for the evaluation of *FieldVMC*: a generalisation of the VMC model as a field-based computation, in the spirit of the Aggregate Programming (AP) paradigm. Work related to the paper "An Aggregate Vascular Morphogenesis Controller for Engineered Self-Organising Spatial Structures".

Paper published to ACSOS 2024

Language: Kotlin
Keywords: Aggregate Computing, Self-Organizing, Vascular Morphogenesis Controller

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Collektive-examples
github.com/Collektive/collektive-examples
01–03/2024

Examples of the Collektive project. The examples were made for academic purposes for the Master Degree Thesis and Research Grant.

Language: Kotlin
Keywords: Domain Specific Language, Aggregate Computing, Field Calculus, eXchange Calculus

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Rust Fields
github.com/RustFields
05–09/2023

This project was born from the willing to extend ScaFi: a Scala-based library and framework for Aggregate Programming. The goal of this project is to explore different solutions to make the field calculus available on thin devices. The topic was used for the development of two projects for three different Master Degree courses: "Pervasive Computing", "Laboratory of Software Systems", and "Project Management".

Language: Rust, Scala
Keywords: Aggregate Computing, Field Calculus, Rust, ScaFi, Pervasive Computing

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Equilessons
https://github.com/angelacorte/equilessons
2021/2023

The aim of the project was to optimize the management of lessons of riding schools. The project was made for leisure purposes before the start of the Master Degree, it was then extended for academic purposes for the course "Applicazioni e Servizi Web" in the Master Degree.

Language: Typescript
Keywords: Web Application, Angular, MEAN, Typescript

Sette e Mezzo clone
github.com/angelacorte/SetteMezzo-Clone
08–10/2022

A digital and distributed command-line application of the Italian card game Sette e Mezzo. The project was made for academic purposes under the course "Distributed Systems" in the Master Degree.

Language: Typescript
Keywords: CLI application, Distributed Systems, Typescript

Smart Charging Stations
github.com/angelacorte/smart-charging-station-report
07–09/2023

Web application for the management of charging stations for electric vehicles. The project was made for academic purposes under the course "Smart City e Tecnologie Mobili" in the Master Degree.

Language: Scala, Typescript, Svelte, NodeJS
Keywords: Web Application, Smart City, Scala, Typescript, Svelte, Akka Actors

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PPS-galaxy sim
github.com/FilippoVissani/PPS-22-galaxy-sim
07–09/2023

A simulator of the motion of bodies within a galaxy. The project was made for academic purposes under the course "Paradigmi di Programmazione e Sviluppo" in the Master Degree.

Language: Scala **Keywords:** Simulation, Scala, Akka Actors

INTERESTS

Aggregate Computing | CI & CD | Swarms | User Experience and User Interface | Web and Mobile Development | Horse Riding | Astronomy