Luca Ciccone

Date of birth: 07/06/1995 | | | | _____ |

- ## EDUCATION AND TRAINING

2009 – 2014 – Genova, Italy
DIPLOMA – Liceo Scientifico L. Lanfranconi

EQF level 4

2014 – 2017 – Genova, Italy
BACHELOR DEGREE IN COMPUTER SCIENCE – Università degli Studi di Genova - Department of Computer Science, Bioengineering, Robotics and Sys

Dissertation/thesis title: "Blockchain: Bitcoin E Oltre I Sistemi Di Pagamento"
Dissertation/thesis subject: Computer Science
Thesis supervisor: Marina Ribaudo
Age at graduation: 22
Official duration: 3 years
Final degree mark: **110/110 cum laude**
Graduation date: 17/10/2017

EQF level 6

2017 – 2019 – Genova, Italy
MASTER DEGREE IN COMPUTER SCIENCE – Università degli Studi di Genova - Department of Computer Science, Bioengineering, Robotics and Sys

Dissertation/thesis title: "Flexible Coinduction in Agda"

Dissertation/thesis subject: Foundations of Computer Science

Thesis supervisors: Elena Zucca and Francesco Dagnino

Short Summary: The thesis will investigate how to express in Agda flexible corecursive definitions, notably using the recently proposed approach based on *corules*. The first step will be getting expertise with Agda, which is a dependently typed functional programming language and proof assistant. Then, the support to corecursion offered by Agda will be studied in detail, and how the flexible interpretation obtained by adding corules could be encoded. The proposed encoding will be tested on significant examples, possibly including implementation and proof of properties of big-step semantics of toy languages.

Graduation date: 25/10/2019

EQF level 7

- ## LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

Timed Trace Expressions

CILC 2019
http://ceur-ws.org/Vol-2396/paper13.pdf – 2019
Abstract:
Trace expressions are a compact and expressive formalism initially devised for runtime verification of multiagent systems, and then adopted for runtime verification of object oriented systems and of Internet of Things applications. In this paper we survey different logics to cope with time intervals, and we exploit the ideas underlying these logics to extend the trace expressions formalism with the explicit management of time.

A Dependently Typed Linear π-Calculus in Agda

PPDP 2020
https://dl.acm.org/doi/10.1145/3414080.3414109 – 2020
Abstract:
In this work we continue a line of research studying the foundations of binary session types. In particular, we propose a variant of the linear π-calculus whose type structure encompasses virtually all dependent session types using just two type constructors: linear channel types and linear dependent pairs. We use Agda not only to formalize the metatheory of the calculus and obtain machine-checked proofs of type soundness, but also as host language in which we implement data-dependent protocols.

CONFERENCES AND SEMINARS

Torino, IT
TYPES 2020: 26th International Conference on Types for Proofs and Programs

I have been involved as organizer and I have been accepted as a speaker.

Title: Flexible Coinduction in Agda

Content (Based on the work of my master thesis): We show an approach to formalize in Agda the meta-theory of Inference Systems in order to provide a library that helps users define different kinds of predicates.

https://types2020.di.unito.it/

04/06/2020 – 05/06/2020
VEST: Verification of Session Types

Title: A Linear π-Calculus with Dependent Types in Agda

Content: We report on our experience in formalizing a variant of the linear pi calculus in Agda. We represent pi calculus processes as a DSL that can access all the features of the underlying Agda layer, particularly dependent pairs and dependent pattern matching. This way, we obtain a minimal, unifying process model capable of encoding a broad family of complex session type theories, including dependent and refinement session types.

http://groups.inf.ed.ac.uk/abcd/VEST/ http://groups.inf.ed.ac.uk/abcd/VEST/slides/Ciccone.pdf

PROJECTS

Web Application

In collaboration with Université Paul-Valéry - Montpellier, I developed, working with two classmates of mine, a Web Application for a Digital Humanities project.

Web Application

I developed a web application for "Queirolo e Associati" in Genova during the first year of the master degree.

● ORGANISATIONAL SKILLS

Organisational skills

Excellent organizational skills, attention to detail and problem solving.

● COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

Ability to work in a group and adapt to different contexts. Excellent ability to relate even expressing in English. Good communication skills with the public.

● JOB-RELATED SKILLS

Computer Science

During my studies I developed skills in different fields of Computer Science. Some examples are listed here:

- Imperative programming: C/C++, Python
- Object-Oriented programming: Java
- Web and server side programming: Javascript, HTML5, CSS3, PHP
- Database management: SQL, Cassandra, Neo4J
- Functional programming: Haskell, Ocaml, Agda
- Logic programming: Prolog