



Carmine Vassallo, Ph.D.

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in [carmine-vassallo](#)

📅 13/12/1990

🐦 [ccvassallo](#)

📄 ABOUT

I love accelerating software development processes through a correct adoption of DevOps principles. During my Ph.D. work, I focused on improving Continuous Integration (CI) and Delivery (CD) processes, which are key enablers of DevOps, implementing solutions that help developers avoid anti-patterns and deal better with the required automation.

🎓 EDUCATION

09/2016 – 10/2020
Zurich, Switzerland

Ph.D. in Informatics, summa cum laude

University of Zurich [🔗](#)

Research topics: Continuous Integration and Delivery, DevOps, Static Code Analysis, Developer Productivity

Thesis: Principle-Driven Continuous Integration: Simplifying Failure Discovery and Raising Anti-Pattern Awareness [🔗](#)

09/2013 – 05/2016
Benevento, Italy

M.Sc. in Computer Engineering, summa cum laude

University of Sannio [🔗](#)

Thesis: Build Failures in Continuous Delivery: a Case Study at ING Nederland

09/2009 – 05/2013
Benevento, Italy

B.Sc. in Computer Engineering, summa cum laude

University of Sannio [🔗](#)

Thesis: Mining Methods' Descriptions from StackOverflow

📁 PROFESSIONAL EXPERIENCE

09/2016 – present
Zurich, Switzerland

University of Zurich [🔗](#)

Researcher in the Software Evolution and Architecture Lab

- Principal Researcher on Continuous Integration and Delivery
- Course assistant and lectures in Software Praktikum, Advanced Software Engineering, and Software Maintenance and Evolution
- Supervision of Bachelor/Master theses and projects

06/2015 – 09/2015
Amsterdam,
The Netherlands

ING Nederland [🔗](#)

Intern

Investigate the DevOps transformation in the financial services industry:

- 152 engineers surveyed about Continuous Delivery practices within ING
- Collection and analysis of 7k build logs to derive the most common failure causes

📄 SELECTED PROJECTS AND PUBLICATIONS

Configuration Smells in Continuous Delivery Pipelines: A Linter and A Six-Month Study on GitLab [🔗](#)
Vassallo, Proksch, Jancso, Gall, Di Penta. ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2020)

We built a static analysis tool (or linter) that helps developers avoid common mistakes when configuring Continuous Delivery pipelines assembled with the build server Gitlab.

An Empirical Characterization of Bad Practices in Continuous Integration [🔗](#)

Zampetti, Vassallo, Panichella, Canfora, Gall, Di Penta. Empirical Software Engineering, Springer (EMSE 2020)

We compiled a catalog of 79 bad practices characterizing the adoption of Continuous Integration.

Every Build You Break: Developer-Oriented Assistance for Build Failure Resolution [↗](#)

Vassallo, Proksch, Zemp, Gall. *Empirical Software Engineering*, Springer (EMSE 2019)

We built a plugin for the build server Jenkins that summarizes the reasons for Continuous Integration build failures (e.g., failed tests) and proposes solutions found on the internet.

Automated Reporting of Anti-Patterns and Decay in Continuous Integration [↗](#)

Vassallo, Proksch, Gall, Di Penta. *IEEE/ACM International Conference on Software Engineering (ICSE 2019)*

We built a monitoring tool that analyzes build logs and repository information to detect the presence of anti-patterns (violations of Continuous Integration principles) in Continuous Integration processes.

A Tale of CI Build Failures: an Open Source and a Financial Organisation Perspective [↗](#)

Vassallo, Schermann, Zampetti, Romano, Leitner, Zaidman, Di Penta, Panichella. *IEEE International Conference on Software Maintenance and Evolution (ICSME 2017)*

We compared occurrences of Continuous Integration build failures in open-source and closed-source (from ING Nederland) projects, and derived a taxonomy of common failure types.

Continuous Delivery Practice in a Large Financial Organisation [↗](#)

Vassallo, Zampetti, Romano, Beller, Panichella, Di Penta, Zaidman. *IEEE International Conference on Software Maintenance and Evolution (ICSME 2016)*

We investigated how teams at ING Nederland adopt Continuous Delivery with a focus on topics related to testing automation, technical debt management, and DevOps culture.

SKILLS

Java

I develop most of our research prototypes using Java.

Python

I analyze our studies results using Python libraries.

SonarQube

I configure SonarQube for university courses.

GitLab/Jenkins

I set up these build servers and simplify their adoption.

Maven/Gradle

I configure these build tools and summarize their logs.

Docker

I build Dockerfiles to make our studies reproducible.

LANGUAGES

Italian

Native proficiency.

English

Full professional proficiency. I spent the last 4 years in an international environment. I co-authored 14 peer-reviewed articles and presented at international venues.

AWARDS

Best tool award (2014) [↗](#)

IEEE International Conference on Program Comprehension

I received this award for my tool that generates descriptions for Java methods using StackOverflow posts.

CHOOSE Grants (2018, 2019) [↗](#)

Swiss Group for Original and Outside-the-box Software Engineering (CHOOSE)

CHOOSE sponsored me to present my work at conferences in Italy and Canada.

SIGSOFT-CAPS Grant (2019) [↗](#)

Association for Computing Machinery's Special Interest Group on Software Engineering (ACM SIGSOFT)

ACM SIGSOFT supported me to present my work at a conference in Canada.

GRC Grant (2020) [↗](#)

Graduate Campus at the University of Zurich (GRC)

GRC sponsored my research stay at Delft University of Technology [↗](#). (canceled due to covid)

INTERESTS

Organize Events (e.g., University Retreat in Spain in 2018) | **Travel** | **Play soccer** | **Watch detective movies**