

Giacomo Zanatta

PHD STUDENT · FORMER TECHNICAL LEADER AND BACKEND DEVELOPER

Treviso, IT

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Summary

I am a PhD student in Computer Science, specializing in static analysis and program verification with a focus on robotic software and microservices. I am also exploring the explainability of neural networks using abstract interpretation. Formerly, I was a Technical Leader, where I gained experience in managing software projects and leading a team of developers. I am always eager to learn new things!

Education

Ca' Foscari University

PHD IN COMPUTER SCIENCE

Venice, Italy

Sept. 2023 - Ongoing

- Member of the **SSV (Software and System Verification) Research Group**
- **Field of study:** Static Analysis and Program Verification of Robotic Software and Microservices
- **Supervisor:** Pietro Ferrara

Ca' Foscari University

M.S. IN COMPUTER SCIENCE

Venice, Italy

Sept. 2018 - Jul. 2023

- **Curriculum:** Software Dependability and Cybersecurity
- **Thesis:** LiSA and ROS: Static Analysis for Robotics

Ca' Foscari University

B.S. IN COMPUTER SCIENCE

Venice, Italy

Sept. 2015 - Aug. 2018

- **Curriculum:** Tecnologie e Scienze dell'Informazione

Publications

IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

GIACOMO ZANATTA, GIANLUCA CAIAZZA, PIETRO FERRARA, LUCA NEGRINI, RUFFIN WHITE

Automating ROS2 Security Policies Extraction through Static Analysis

2024

- CORE ranking A
- **Session:** Best Safety, Security, and Rescue Robotics Papers (IRSI)

ACM International Workshop on Formal Techniques for Java-like Programs (FtFJP)

GIACOMO ZANATTA, PIETRO FERRARA, TEODORS LISOVENKO, LUCA NEGRINI, GIANLUCA CAIAZZA, RUFFIN WHITE

Sound Static Analysis for Microservices: Utopia? A Preliminary Experience with LiSA

2024

- Workshop co-located with ECOOP/ISSTA

Talks

Automating ROS2 Security Policy Extraction through Static Analysis

CHALLENGES OF SOFTWARE VERIFICATION SYMPOSIUM (CSV)

Venice, Italy

Jun. 07, 2024

Sound Static Analysis for Microservices: Utopia? A Preliminary Experience with LiSA

ACM INTERNATIONAL WORKSHOP ON FORMAL TECHNIQUES FOR JAVA-LIKE PROGRAMS (FTFJP)

Vienna, Austria

Sept. 20, 2024

Static Analysis of Distributed Applications - From Robotics to Microservices

ANTIQUÉ RESEARCH LAB, INRIA/ENS PARIS

Paris, France

Oct. 04, 2024

Automating ROS2 Security Policy Extraction through Static Analysis

IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS)

Abu Dhabi, UAE

Oct. 16, 2024

Work Experience

Alpenite s.r.l

TECHNICAL LEADER

Venice, Italy

Feb. 2021 - Aug. 2023

- Led a team of junior developers and helped them grow professionally.
- Cooperated with the Project Manager to provide the best solution for customers.
- Developer and maintainer of a cloud-based middleware hosted on Heroku.
- Code review and sprint planning.
- Gained expertise in deploying new functionalities in a production environment.
- Put effort into improving the documentation of my inherited projects and raising actual code standard.

Alpenite s.r.l

SALESFORCE COMMERCE CLOUD CONSULTANT // SOFTWARE ENGINEER AND ANALYST

Venice, Italy

Jan. 2019 - Aug. 2023

- I was a back-end developer, but I was also confident with tasks involving front-end programming.
- Integrated technologies/flows inside CommerceCloud using standard cartridges or custom logic.
- Refactored the Salesforce (CRM) integration to improve robustness and fault tolerance.
- Integrated various payment methods (such as paypal, amazonpay, googlepay, applepay, klarna) in several CommerceCloud instances.

Research Community Activities

INRIA Antique Research Lab @ École Normale Supérieure

VISITING RESEARCHER

Paris, France

Sept. 2024 - Ongoing

- **Project:** Explainability of Neural Networks using Abstract Interpretation
- **Supervisor:** Caterina Urban

[SUMMER SCHOOL] Lipari Summer School on Abstract Interpretation 2024

ABSTRACT INTERPRETATION, STATIC PROGRAM ANALYSIS, INFORMATION FLOW ANALYSIS, NARROWING AND WIDENING, FORMAL METHODS FOR MACHINE LEARNING

Lipari, Italy

Sept. 1 - 7, 2024

[SUMMER SCHOOL] Marktoberdorf Summer School 2024

DYNAMIC SYMBOLIC EXECUTION, FIRST-ORDER THEOREM PROVING, STATIC PROGRAM ANALYSIS, SOFTWARE SECURITY, MODEL CHECKING

Herrsching am Ammersee, Germany

Aug. 6 - 17, 2024

PLMW (Programming Language Mentoring Workshop)

CO-LOCATED WITH PLDI (PROGRAMMING LANGUAGE DESIGN AND IMPLEMENTATION) CONFERENCE

Copenhagen, Denmark

Jun. 24 - 28, 2024

Teaching

TEACHING ASSISTANT

SOFTWARE ARCHITECTURES AND DEVELOPMENT METHODOLOGIES

Venice, Italy

Sept. 2023 - Ongoing

- MS course in Computer Science, 30 students

TUTOR

INTRODUCTION TO PROGRAMMING

Venice, Italy

Jan. 2024 - Jul. 2024

- First Year BS course in Computer Science, 250 students

TUTOR

SYSTEM ADMINISTRATION LAB.

Venice, Italy

Jan. 2023 - Jul. 2024

- BS course in Computer Science, 40 students

Skills

DevOps Git, Docker, Kubernetes, Heroku

Back-end Node.js, Django, FastAPI, Gin, Spring, REST API

Front-end JQuery, React, HTML5, CSS, SASS

Programming Languages Java, Javascript, Python, C, C++, Golang, bash, APEX, F#
Italian (mother tongue), English