

Stefano Genetti

UNIVERSITY OF TRENTO COMPUTER SCIENCE STUDENT

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Education

University of Trento

Trento, Italy

MASTER'S DEGREE IN COMPUTER SCIENCE

Sept. 2022 - ongoing

- **Current GPA:** 29.5/30 | **Expected graduation date:** Dec. 2024
- **Relevant coursework:** Data Mining, Distributed Systems, Blockchain, Machine Learning, Deep Learning, Computer Vision, Bio-Inspired Artificial Intelligence, Low-power wireless networking for the Internet of Things

University of Trento

Trento, Italy

BACHELOR'S DEGREE IN COMPUTER SCIENCE

Sept. 2019 - Sept. 2022

- **GPA:** 29.59/30
- **Grade** 110/110 *cum laude* | **Final Dissertation:** "Hypergraph Summarization" - Supervisor: professor Alberto Montresor - 📄
- **Relevant coursework:** Algorithms and Data Structures, Fundamentals of Robotics, Introduction to Machine Learning, Software Engineering, Systems and Networks, Databases, Operating Systems, Computer Architectures

Experience

University of Trento - Research project

Trento, Italy

INFLUENCE MAXIMIZATION IN HYPERGRAPHS USING MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS - MAIN AUTHOR

Jan. 2024 - Jun. 2024

- Research Publication. Conference: PPSN 2024. Supervisor: Prof. Giovanni Iacca. Developed a novel multi-objective evolutionary algorithm incorporating smart initialization and hypergraph-aware mutation to solve the Influence Maximization problem on hypergraphs. Achieved state-of-the-art results in hypervolume and solution diversity across nine real-world datasets and three propagation models, outperforming five baseline algorithms.

E-Agle Trento Racing Team -

Trento, Italy

MEMBER OF THE SOFTWARE DRIVERLESS TEAM (FORMULA STUDENT)

Oct. 2022 - ongoing

- My primary role involves creating a Visual SLAM solution that combines the ORB-SLAM3 algorithm with YOLO. This solution enables vehicle localization on the track while simultaneously identifying cones and their coordinates to construct a map of the circuit.

University of Trento - Research project

Trento, Italy

HYPERGRAPH SUMMARIZATION - MAIN AUTHOR

Jan. 2022 - ongoing

- Supervisor: Prof. Alberto Montresor. We are developing the first algorithmic solution to the novel problem of Hypergraph Summarization. Currently we are refining and extending our results on real-world datasets with the aim of publishing a scientific paper.

Relevant Projects

From words to bounding boxes: exploring visual grounding using CLIP -

PyTorch

UNIVERSITY PROJECT

June 2023 - Sept. 2023

- Fine-tuning of CLIP to solve the problem of Referring Expression Comprehension by linking natural language descriptions to images to localize target objects. Three distinct architectures have been proposed: a conventional fine-tuning approach, a contrastive learning method inspired by the "fine-tune like you pretrain" concept, and a self-attention-based approach. We assessed the performance on the RefCOCOg dataset.

Distributed Key-Value Store with Data Partitioning and Replication -

Java, Akka

UNIVERSITY PROJECT

July. 2023 - Aug. 2023

- Design and development of a distributed system that implements a peer-to-peer key-value storage service inspired by Amazon Dynamo. The distributed hash table efficiently balances data among interconnected peer nodes, ensuring reliability and accessibility through key-based partitioning. The client nodes perform read and write operations on the distributed database which ensures sequential consistency.

Enhancing Certificate Management through Blockchain Technology -

Solidity

UNIVERSITY PROJECT

June 2023 - July 2023

- Development of a distributed application to streamline certificate management for groups using a private blockchain, IPFS, and an Express-based web service.

Evaluating Dataset portions based on query logs -

Python

UNIVERSITY PROJECT

Nov. 2022 - Jan. 2023

- Development of a sophisticated query recommendation system that suggests queries leading to user-relevant data. We propose a hybrid solution which combines content-based and collaborative methods mitigating the limitations of both approaches.

A mobile robot to pick up LEGO bricks -

ROS, C++, Python

UNIVERSITY PROJECT

Dec. 2021 - Feb. 2022

- Exploration of a known environment with a mobile robot equipped with a 6-DoF-mainpulator in order to localize and classify LEGO bricks to be taken to a proper basket according to some specifications.