Ilie Sarpe

PhD Student

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About me

I am a third year PhD student in Computer Engineering under the supervision of Prof. Fabio Vandin. My research interests largely focus on the development of algorithms for the analysis of massive temporal networks. In particular I am currently developing data mining algorithms for collecting patterns (e.g., motifs) from large temporal networks, such algorithms need to be scalable and efficient since extracting such patterns may be unfeasible on large temporal networks with currently available techniques. I am thus focused especially on sampling-based algorithms with provable theoretical guarantees.

Education

PhD Student
Oct 2019 - Present
UNIVERSITY OF PADOVA, ITALY
Department of Information Engineering

TOPIC: Efficient and Rigorous Techniques for the Analysis of Large Temporal Networks
ADVISOR: Prof. Fabio Vandin

M.S. in Computer Engineering
Oct 2017 - Sep 2019
UNIVERSITY OF PADOVA, ITALY
Department of Information Engineering

THESIS TITLE: Mining Motifs in Temporal Networks
GRADE: 110/110 e lode (*summa cum laude*)
ADVISOR: Prof. Fabio Vandin

B.S. in Computer Engineering
Oct 2014 - Sep 2017
UNIVERSITY OF PADOVA, ITALY
Department of Information Engineering

THESIS TITLE: Statistical Correlation between Alignment-free and Edit Distance Measures
GRADE: 104/110
ADVISOR: Prof. Matteo Comin

Teaching Assistant

2018 - Present *Big Data Computing*, Department of Information Engineering, University of Padova

Fellowships and Awards

Oct 2019 - Dec 2022 PhD Fellowship from "Department of Information Engineering (DEI)", University of Padova, Italy

2017 Award for scientific degrees, award given to the best 500 students of scientific degrees, University of Padova, Italy

2017 "Mille e una lode", award for the top 5% students of the academic year 2016, University of Padova, Italy

2016 "Mille e una lode", award for the top 5% students of the academic year 2015, University of Padova, Italy

Publications

* denotes equal contribution.

Diego Santoro* and *Ilie Sarpe*, ONBRA: *Rigorous Estimation of the Temporal Betweenness Centrality in Temporal Networks*, Accepted at The Web Conference 2022 (WWW 2022).

Ilie Sarpe and Fabio Vandin, ODEN: *Simultaneous Approximation of Multiple Motif Counts in Large Temporal Networks*, Accepted at the 30th ACM International Conference on Information and Knowledge Management (CIKM 2021).

Ilie Sarpe and Fabio Vandin, *PRESTO: Simple and Scalable Sampling Techniques for the Rigorous Approximation of Temporal Motif Counts*, Accepted at the 2021 SIAM International Conference on Data Mining (SDM21).

OTHER INFORMATION

Conference Reviewer	RECOMB 2020, KDD 2020, ICDM 2020, WWW 2021, ECML-PKDD 2021, ICDM 2021, WSDM 2022, WWW 2022, KDD 2022
Programming Experience	C++, C, Java, Python, MATLAB, SQL, NoSQL, Bash, LaTeX
Languages	Native Italian and Romanian Speaker, B2 English