Samuel Koovely

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EXPERIENCE

Committee member for professorial appointment Sep. 2024 - Ongoing
Department of Mathematical Modeling and Machine Learning, UZH, Switzerland
Committee member for professorial appointment Jun. 2023 - Dec. 2023
Institute for Mathematics, UZH, Switzerland

Teaching Assistant Sep. 2022 - Ongoing
University of Zurich, Switzerland
- Organizer of *Introduction to Machine Learning*
  (English) Spring Term 2025
- Teaching Assistant of *Complex Networks Theory and Applications*
  (English) Fall Term 2024
- Head Teaching Assistant of *Complex Networks Theory and Applications*
  (English) Fall Term 2022/2023
- Organizer of *Seminar on Markov Models*
  (English) Spring Term 2024

Project Intern and Trainee Nov. 2020 - Nov. 2021
IBM Research Zurich, Switzerland
- Project intern for my MSc Thesis [2]
- Further developed the model introduced in [2] as a post-graduate trainee.

Teaching Assistant Sep. 2017 - Aug. 2019
ETH Zurich, Switzerland
- Assistant of *Mathematik IV: Statistik* (German) Spring Term 2019
- Assistant of *Stochastics (Probability and Statistics)* (German) Fall Term 2018
- Assistant of *Probability and Statistics* (English) Fall Term 2017

EDUCATION

PhD studies in Mathematics Aug. 2022 - ongoing
University of Zurich, Institute of Mathematics, Institute of Mathematical Modeling
and Machine Learning

BSc and MSc studies in Mathematics Sep. 2015 - Jul. 2021
ETH Zurich, Department of Mathematics

SKILLS

Languages: Italian (Native tongue), English (proficient), French (good), German
(good)
Programming Skills: Python (good), R (intermediate), Matlab (intermediate), C++
(basic), Wolfram Language (Basic)

SEMINARS & CONFERENCES

What is... Free Convolution?, ZGSM Graduate Colloquium, ETH/UZH Mai 2025
Introduction to Machine Learning, UZH (organizer) Spring 2025
Diffusion on Graphs, DM3L Inaugural Symposium 24, UZH Sep. 2024
Information-theoretic framework for the dynamics of temporal networks,
NetSci 2024 Jun. 2024

Seminar on Markov Models, UZH (organizer)	Spring 2024
Random Walks and Community Detection, Complex Networks: Theory, Methods, and Applications - 7th ed.	May 2023
The art of statistics, ETH	Dec. 2019
Theory and applications of Machine Learning, ETH	Nov. 2019
Representation theory: groups, algebras and quivers, ETH	Oct. 2018
Vector Bundles in algebraic topology, ETH	Mar. 2018

SERVICES TO COMMUNITY

Reviewer for Journals: Physical Review E (2025)	
Reviewer for Conferences: NetSci (2025)	
Examiner of candidates high-school teacher in mathematics, Kantonsschule Rämibühl MNG	Oct. 2024
Committee member for professorial appointment, UZH	2023-2025

PREPRINTS & PUBLICATIONS

[1] Alexandre Bovet and Samuel Koovely. "Entropy-Informed Temporal Community Detection". In: *Manuscript in preparation* (2025).

THESES & PROJECTS

[2] Samuel Koovely. "A mathematical framework for COMIC-Tree: an undirected graphical model for T-cell receptors specificity". MSc Thesis. 2021.

[3] Samuel Koovely. "Overview and empirical evaluation of some variations of the PC-algorithm". Semester Research Project. 2020.

[4] Samuel Koovely. "Introduction to Riemann surfaces and covering spaces". BSc Thesis. 2019.