

# VALERIA SECCHINI

## PROFILE



**Nationality:**  
Italian

**Date of birth:**  
06/10/1994



valeria.secchini.r@gmail.com



<https://it.linkedin.com/in/valeria-secchini>

## LANGUAGES

-English: **C1** (7.5 IELTS Certificate 2023)

-Italian: **C2**

## CODING AND SIMULATION SOFTWARES

- Python very good command
- NetLogo good command
- Mathematica good command
- C++ good command
- MATLAB fair command

## DIGITAL SKILLS

- Unix/Linux: independent user
- LaTeX: very good command
- GitHub: good command
- Office Suite: good command

## RESEARCH ACTIVITY

### JUNIOR RESEARCHER in CORPTAX team

Charles University, Prague (07/2021 - now)

- Topic: Multinational Corporations' (MNCs') tax avoidance
- Task: Understanding countries' tax loss due to MNCs profits shifting and how this profits flow is organized through an interdisciplinary approach

## EDUCATION

### PhD STUDENT in Economics and Finance

Charles University, Prague (10/2021 - now)

Principal subjects covered:

- Taxation and Multinational Corporations
- Network Analysis
- Computational Economics

Skills acquired:

- Improved ability to carry out research both independently and in team
- Improved academic writing ability through workshops and the actual writing of papers and research proposals
- Ability to present research projects to and engage with audience/teams with different backgrounds (for example through the participation both in Economics and Complexity conferences)

### MASTER'S DEGREE in PHYSICS OF COMPLEX SYSTEMS

**(Final evaluation: 110/110 cum laude)**

University of Turin, Italy (12/2018 – 12/2020)

Principal subjects covered:

- Machine and Deep Learning
- Dynamical Systems
- Stochastic Processes
- Statistical Mechanics
- Network Analysis
- Statistics
- Agent-Based Modelling
- Economic Complexity
- Micro-Economics

Skills acquired:

- Knowledge of complexity science and ability to model and understand various systems through an interdisciplinary approach
- Development of the ability to carry out research activity and teamwork during my master's thesis work and publication

### BACHELOR'S DEGREE in PHYSICS

University of Padua, Italy (10/2013 – 07/2018)

## TEACHING EXPERIENCE

- **Teaching Assistantship** in the academic course of Introductory Statistics, "Charles University", Prague (02/2022 – 09/2022)
- **Teaching Assistantship** in the academic course of Public Finance, "Charles University", Prague (2022 and 2023)
- **Teaching Assistantship** in the academic course of Principles of Economics I, "Charles University", Prague (2021 and 2022)

- **Tutor in Mathematics** in Middle School “Peyron-Re Umberto I”, Turin (Italy) (02/2019 - 06/2019)

## PUBLICATIONS

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- Secchini V., Garcia-Bernardo J., Janský P. , **"Avoiding Overfitting in Variable-Order Markov Models: a Cross-Validation Approach."** (2025), ArXiv.
- Bellomo N., Burini D., Secchini V., Terna P., **"Active Particles Methods in Economics"**, Elements in Complexity and Agent-based Economics, Cambridge University Press, 2024s. 1–44.
- Bellomo N., Esfahanian M., Secchini V., Terna P. **"What is Life? Active particles tools towards behavioral dynamics in social-biology and economics"**, Physics of Life Reviews, 2022, 43, 189-207
- Garcia-Bernardo, J., Haberly, D., Janský, P., Palanský, M., & Secchini, V. (2022). **"The indirect costs of corporate tax avoidance exacerbate cross-country inequality"** (No. 2022/33). *WIDER Working Paper*.
- Knopoff, D.; Secchini, V.; Terna, P. **"Cherry Picking: Consumer Choices in Swarm Dynamics, Considering Price and Quality of Goods"**. Symmetry 2020, 12, 1912.

## PROJECTS

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- **Master's Thesis Project**,  
*"Cherry Picking: Consumers' Choices in a Swarm Dynamics Considering Price and Quality of Goods"*, text as "Project\_Full\_Text" in:  
<https://github.com/Valer7a/Cherry-Pickingin-a-Decentralized-Hayekian-Market-with-Quality-described-through-Swam-Theory>
- **Deep Learning projects**,
  - "Text classification, through fine-tuned Word2Vec and Doc2Vec"*:  
<https://www.kaggle.com/valeriasecchini/text-classif-fine-tuned-word2vec-and-doc2vec> ,
  - "Classification of the gender of authors' tweets"*  
<https://www.kaggle.com/valeriasecchini/notebook-valeria-secchini-data-mining-project>
  - "Classification of names in patent litigation"*  
<https://www.kaggle.com/valeriasecchini/task5-valeriasecchini>
- **Econophysics agent-based model project**,  
*"Market Efficiency Under Different Dynamics in the Mall"* :  
<https://terna.to.it/tesineEconofisica/marketEfficiency.htm>
- **Network analysis**:  
*"Analysis of Political Books Network"* :  
<https://github.com/Valer7a/Analysis-of-Political-Books-Network/settings>
- **Bachelor's Thesis Project**,  
*"Order-Book's dynamics: Stigler model"* :  
<http://tesi.cab.unipd.it/61240/>

## AWARDED GRANTS

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- **GA UK**:  
Doctoral Grant awarded by Charles University for my research proposal on Multinational Corporations tax avoidance
- **Swaantje Mondt Fund**:  
Awarded by Utrecht University (UU) both in 2022 and in 2023 to visit the Centre for Complex Systems Studies and carry out my research on higher orders in networks with Assistant Prof. Javier Garcia-Bernardo.