THEODORA MOLDOVAN

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EDUCATION

Uppsala University, Uppsala, Sweden — PhD expected January 2031
Computer Science

Uppsala University, Uppsala, Sweden — Master of Science awarded June 2025
Data Science — *Specialization:* Machine Learning and Statistics

Connecticut College, New London, Connecticut, USA — Bachelor of Arts awarded May 2023
Major: Statistics and Data Science — *Minor*: Computer Science — Summa cum laude

RESEARCH EXPERIENCE

InfoLab, Department of Information Technology, Uppsala University — Uppsala, Sweden
PhD Candidate — February 2026 - present

- Combining fairness, social network analysis, and combinatorial optimization to develop social network analysis methods that incorporate both network structure and the personal attributes of nodes, while minimizing bias against individuals or groups

Department of Economics, Uppsala University — Uppsala, Sweden
Research Assistant — September 2025 - January 2026

- Analyzed georeferenced Swedish population register data to quantify the effects of demolitions and new construction on socio-economic segregation as part of the Uppsala Immigration Lab and Urban Lab

Department of Economics, Stockholm University — Stockholm, Sweden
Research Assistant — April 2025 - June 2025

- Helped mosaic and georeference 1.67M historical aerial photographs as part of the project "A new approach to measuring the wealth of nations: understanding long-run economic growth using historical aerial photographs"

Department of Peace and Conflict Research, Uppsala University — Uppsala, Sweden
Research Assistant — November 2024 - June 2025

- Performed computational text analysis within the "Who stands up for liberal democracy in the face of organized crime?" project
- Investigated shifts in Swedish parliamentary and media discourse on organized crime over time, focusing on framing techniques

Institute for Futures Studies — Stockholm, Sweden
Research Assistant — June 2024 - December 2024

- Gathered longitudinal datasets on policy introductions and vote intention polls, merging party name changes over time
- Applied statistical modeling to assess policy feedback mechanisms over time in the "How policy creates politics" project

Department of Statistics, Uppsala University — Uppsala, Sweden
Research Assistant — January 2024 - June 2024

- Contributed to the digitized parliamentary records project "Swedish Riksdag 1867–2022: An Ecosystem of Linked Open Data"
- Performed quality control on historical data about debates, motions, interpellations and parliamentarians

Ammerman Center for Arts and Technology, Connecticut College — New London, Connecticut
Certificate Program Scholar — November 2020 - May 2023

- Created a digital interactive fictionalized memoir and designed a 3D-printed journal-like interface to embed an iPad screen
- Incorporated user input and generative models to create alternative story paths and visuals

Summer Science Research Institute, Connecticut College — New London, Connecticut
Research Assistant — May 2022 – July 2022

- Developed an iterative methodology using new sequencing technology and improved genomic sequence alignment accuracy by incorporating mapping quality and abundance scores with the minimap2 pairwise aligner

Robotics and Artificial Intelligence Lab, Connecticut College — New London, Connecticut
Research Assistant — May 2021 – August 2021

- Enabled communication, mapping, task distribution and progress monitoring among a network of cloud-connected robots

Polymath REU, Williams College — Williamstown, Massachusetts
Research Assistant — June 2020 – August 2020

- Derived and analyzed upper and lower bounds for the hat guessing number across various complete graphs

PUBLICATIONS

Moldovan, T., Pera, A., Vega, D., & Aiello, L. M. (2025). Podcasts as a Medium for Participation in Collective Action: A Case Study of Black Lives Matter. *arXiv preprint*. `https://arxiv.org/abs/2509.13197`

Abu Khait, A., Menger, A., Rababa, M., **Moldovan, T.**, Lazenby, M., & Shellman, J. (2024). The Mediating Role of Religion and Loneliness on the Association between Reminiscence Functions and Depression: A Call to Advance Older Adults' Mental Health. *Psychogeriatrics*. `https://doi.org/10.1111/psyg.13041`

Abu Khait, A., Menger, A., Al-Modallal, H., Abdalrahim, A., **Moldovan, T.**, & Hamaideh, S.H. (2024). Self-Transcendence as a Mediator of the Relationship Between Reminiscence Functions and Death Anxiety: Implications for Psychiatric Nurses. *Journal of the American Psychiatric Nurses Association*. `https://doi.org/10.1177/10783903231174464`

INTERNSHIP EXPERIENCE

Analytics Center of Excellence, Yale School of Medicine — New Haven, Connecticut
Data Analytics Intern — June 2022 - August 2022

- Designed reproducible data pipelines and dashboards to analyze institutional datasets
- Collaborated with faculty and IT specialists to support data-driven research initiatives

Menger Analytics — New York, New York
Statistical Research Intern — January 2022 - May 2022

- Performed statistical analyses in R (mediation analysis, metric invariance) to support cross-cultural research
- Contributed to the psychometric validation of the Arabic Reminiscence Function Scale for publication

TEACHING EXPERIENCE

Department of Information Technology, Uppsala University — Uppsala, Sweden
Teaching Assistant — September 2023 - present

- Visual Communication of Data (1DL415) — Fall 2026
- Introduction to Machine Learning (1DL034) — Spring 2025
- Data, Ethics and Law (1DL002) — Fall 2024, Fall 2026
- Algorithms and Data Structures I (1DL210) — Fall 2023, Fall 2024
- Program Design and Data Structures (1DL201) — Fall 2023, Spring 2024
- Data Mining (1DL360) — Fall 2023, Fall 2026

Department of Computer Science & Department of Mathematics, Connecticut College — New London, Connecticut
Teaching Assistant — September 2020 - May 2023

- Biological Statistics (BIO 235/STA 235) — Spring 2023
- Introduction to Statistics (STA 107) — Spring 2022
- Machine Learning and Data Mining (COM 307) — Fall 2021, Fall 2022
- Advanced Regression Techniques (STA 207) — Spring 2021, Fall 2021, Fall 2022
- Introduction to Computer Science and Problem Solving (COM 110) — Fall 2020, Spring 2021, Fall 2021, Spring 2022

AWARDS AND HONORS

Distinction in the Major Field — May 2023
Department of Mathematics and Statistics, Connecticut College
Awarded for high scholarship standing in regular or interdisciplinary major courses.

Senior Julia Wells Bower Prize — April 2023
Department of Mathematics and Statistics, Connecticut College
For distinction in statistics, offered by an anonymous donor in honor of Julia Wells Bower, Prof. Emeritus of Mathematics.

Smalley/Zahler Award — April 2023
Ammerman Center for Arts and Technology, Connecticut College
Demonstrated excellence in the integrated fields of arts and technology and successfully incorporated the highest degree of creativity, innovation, aesthetic and technological understanding.

Winthrop Scholar — February 2023
Phi Beta Kappa, Delta of Connecticut Chapter, Connecticut College
Based on performance through the junior year, ranking approximately in the top three percent of the graduating class.

Presidential Scholar — August 2019
Connecticut College
Awarded the Founders Scholarship for four years of undergraduate study and invited to participate in a series of faculty talks.

ACADEMIC MEMBERSHIPS

Nordic Society for Computational Social Science — February 2026 - present
Uppsala University Network on Computational Social Science — February 2026 - present
Phi Beta Kappa — May 2023 - present
Delta of Connecticut Chapter
Pi Mu Epsilon — May 2023 - present
Connecticut College Chapter

SKILLS

- **Languages:** Romanian (native); English (C2); Swedish (B2)
- **Programming:** Python; R; SQL; MATLAB; JavaScript; TypeScript; Java; C++;
- **Tools:** LaTeX; Git; Vim; Docker; Ansible; Slurm; SSH; SCP; Apache Spark; Hadoop; Pulsar; Ray; CUDA; PyTorch; TensorFlow

REFERENCES

- **Matteo Magnani**, Professor, Department of Information Technology, Uppsala University — matteo.magnani@it.uu.se
- **Davide Vega**, Assistant Professor, Department of Information Technology, Uppsala University — davide.vega@it.uu.se
- **Luca Maria Aiello**, Professor, Data Science Section, IT University of Copenhagen — luai@itu.dk