

# GERMANS SAVCISENS

[gɪ'irmən saftʃi'sɛn]

Ph.D. Candidate in Computational Social Science

Copenhagen, Denmark | [germans.savcisens@pm.me](mailto:germans.savcisens@pm.me) | [LinkedIn](#) | [Personal Page](#)

## PROFILE

---

I am a (*soon-to-graduate*) Ph.D. student in Computational Social Sciences with a proven track record in analyzing large datasets and developing methods for modeling unstructured time series. My research primarily explores the Representation of Human Behaviour, utilizing the advanced capabilities of Transformer-based models to analyze sequences of socio-economic data.

In addition to my proficiency in data processing and visualization of complex datasets, I also bring expertise in algorithmic auditing & ethics, focusing on the critical examination of model biases, transparency, and fairness to ensure that the predictive systems I develop are equitable and just. This dual focus on technical robustness and ethical integrity positions me uniquely in the interdisciplinary space of computational sciences.

*My areas of interest span NLP, Foundation Models, Algorithmic Fairness and Explainability, and Human Behaviour.*

## WORK EXPERIENCE

---

**PhD Student | Technical University of Denmark & University of Copenhagen** Sep 20 — Dec 23

I explore nationwide socioeconomic & health data to predict life outcomes with transformer-based neural networks,

- Focus on the life-outcomes prediction, evaluate, and interpret outputs of neural models,
- Develop and implement machine learning models for representation learning,
- Focus on Algorithmic Auditing and Fairness.

**Guest Researcher | Denmark Statistics** Sep 20 — Dec 23

Affiliated with the Data Science Lab as a part of my Ph.D. Research:

- Processed large-scale behavioral datasets for exploratory & predictive analysis,
- Collaborate with Denmark's leading economists & social scientists to identify demographic patterns.

**Visiting PhD Student | Network Science Institute (Northeastern University)** Sep 22 — Feb 23

- I visited RADLAB (Tina Eliassi-Rad) to work on a project within Algorithmic Auditing and Fairness.

**Global Data Science Researcher | Novo Nordisk** Sep 19 — Apr 20

Conducted research with the Data Science department on predictive modeling for medical adherence:

- Processed and analyzed Electronic Health Records,
- Developed hierarchical attention models for the health-outcome predictions,
- Deployed the model to leverage behavioral data affecting key business areas.

**Global IT Infrastructure Assistant | Novo Nordisk** May 17 — Sep 19

- Enhanced data collection procedures, assisted in automating data processing challenges,
- Built reporting dashboards and provided ad-hoc analysis and visualization of various reports.

## EDUCATION

---

**Aalto University | Helsinki, Finland** Feb 21 — Jun 21

Visiting Student for Digital Ethics and Statistical Natural Language Processing

**Technical University of Denmark | Copenhagen, Denmark** Feb 18 — May 20

MSc in Human-Centred Artificial Intelligence

**Aalborg University | Copenhagen, Denmark** Sep 13 — Jul 16

BSc in Human-Computer Interaction

## SKILLS

---

**Languages:** Russian (native) – English (fluent) – Latvian (proficient) – Danish (beginner) – French (beginner)

**Coding:** Python (advanced) – SQL (advanced) – C# (proficient)

**Tools:** PyTorch (+ Lightning) – Pandas/Dask – Scikit – NetwrokX – Scipy – HuggingFace

**Hard Skills:** Time-series analysis – Fairness & Bias – Robust Models – Data Processing – Network Analysis – Design of Experiments – Foundation Models – Curriculum Learning – Representation Learning

## PUBLICATIONS

---

### [Using Sequences of Life-events to Predict Human Lives](#)

*Germans Savcisen*, Tina Eliassi-Rad, Lars Kai Hansen, Laust Mortensen, Lau Lilleholt, Anna Rogers, Ingo Zettler, Sune Lehmann  
Nature Computational Science (2023)

### [A Sustainable West? Analyzing Clusters of Public Opinion in Sustainability Western Discourses in a Collection of Multilingual Newspapers \(1999-2018\)](#)

Elena Fernández Fernández, *Germans Savcisen* | Proceedings of Digital Humanities in the Nordic and Baltic Countries (2023)

### [An Industrial West? A Quantitative Analysis of Newspapers Discourses about Technology over Ninety Years](#)

Emmanuelle Denove, Elisa Michele, *Germans Savcisen*, Elena Fernández Fernández | Journal of Data Mining & Digital Humanities (2023) | Preprint

## ACADEMIC TALKS

---

"Using Life-Sequences to Predict Human Lives" ODISSEI Lecture   Netherlands	Sep 23
"Danish Registry Data and Socio-Economic Trajectories" MIT, Human Dynamics Lab   Boston, US	Oct 22
"Life2vec: What Transformers can learn about us from the government statistics," Centre for Social Data Science   Copenhagen, Denmark	Nov 21
"Representation of Behavior with Transformers: Beyond NLP" Centre for Basic Machine Learning in Life Science (MLLS)   Copenhagen, Denmark	Nov 21
"Representation of Human Behavior" Statistics Denmark (Nation-scale Social Networks)   Copenhagen, Denmark	Sep 21

## TEACHING

---

### Principal Lecturer & Examiner

Algorithmic Fairness, Accountability, and Ethics | IT University of Copenhagen Jan 23 — Jun 23

### Teaching Assistant / Assistant Lecturer

As a Teaching Assistant or Assistant Lecturer, I navigate students with their assignments and projects, as well as develop course content and measure student's final performance:

Algorithmic Fairness, Accountability, and Ethics   IT University of Copenhagen	Jan 22 — May 22
Advanced Machine Learning   Technical University of Denmark	Jan 21 — Jun 21
Social Data Analysis and Visualizations   Technical University of Denmark	Feb 19 — May 21
Social Networks and Interactions   Technical University of Denmark	Sep 19 — Dec 20

### Supervision

MSc Student Projects: (1) *Rule Detection in Unstructured Documents*, (2) *Forecasting Smartphone App Usage*, (3) *Automating the Identification of Compliance Rules from Investment Mandates*

## GRANTS

---

Villum Foundation: Villum Synergy (Sponsor for PhD Studies)   Denmark	2020-2023
Otto Mønsted Fond (Travel Grant)   Denmark	2022
STIBO Foundation (Travel Grant)   Denmark	2022
William Demant Fonden (Travel Grant)   Denmark	2022