

# CV

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Occupation: PhD Candidate, Department of Informatics,  
University of Bergen



## Education

- Ongoing **PhD in Informatics Didactics**  
Department of Informatics, University of Bergen
- 2021 **Master in Informatics** specialising in Logic.  
Department of Informatics, University of Bergen
- 2019 **Bachelor in Cognitive Science** specialising in Informatics.  
Department of Information Science and Media Studies, University of Bergen

My research interests are centred around improving programming instruction in higher education. Specifically, my projects focus on assessing student prior knowledge and integrating this knowledge into how introductory programming courses are taught. Additionally, I investigate the importance of the Sense of Belonging within the computer science field. I explore how students' effort, attrition, performance, and engagement are influenced by their sense of belonging to their peers, institution, and faculty.

## Research Projects

- Ongoing **Identifying K-12 Educational Markers for Programming Proficiency**  
Stage: Analysis ongoing  
Author: Sondre S. Bolland
- Programming Misconceptions of Incoming Higher Education Students**  
Stage: Data collection ongoing  
Author: Sondre S. Bolland
- Exploring the Consequences of Single-Assessment Grading in Higher Education**  
Stage: Writing ongoing  
Author: Sondre S. Bolland

- 2024 **Fundamentals of Norwegian CS1** (*publication pending*)  
 Authors: Sondre S. Bolland, Aleksandr Popov, Tyra F. Eide, Robert Kordts and Torstein J. F. Strømme
- The Nordic Prior Knowledge Test in Programming: Motivation, Development and Preliminary Results** (*publication pending*)  
 Authors: Sondre S. Bolland, Andreas Haraldsrud, Siri M. Jensen, Filip Strömbäck, Arne Styve, Erlend Tøssebro, Eirik Valseth, and Torstein J. F. Strømme
- 2023 **The Nordic Prior Knowledge Test in Programming 2023** ([report](#), [website](#))  
 Author: Sondre S. Bolland
- What challenges do the students face in introductory-STEM courses, and how can instructors help?** ([publication](#))  
 Authors: Sondre S. Bolland, Emili Rønning, Tiril Try, Sehoya Cotner, Kjersti Daae & Mirjam Glessmer.  
 Paper presented at MNT 2023 as key-note.
- Mandatory or Voluntary Coursework in Introductory Programming Courses?** ([publication](#))  
 Authors: Sondre S. Bolland, Tyra F. Eide & Torstein J. F. Strømme.
- 2022 **Addressing Incoming Students with Prior Programming Experience: Do they need CS1?** (*Study without write-up*)  
 Author: Sondre S. Bolland.  
 Study presented for *The National Academic Council for ICT*.
- 2021 **Expressing Unknown Instance Relations in Program Synthesis using Neurosymbolic Methods** ([master thesis](#))  
 Author: Sondre S. Bolland.  
 Supervisor: Michal Walicki.
- Introduksjonsdag for gruppeledere i informatikk: hvilke tema bør adresseres?** ([pdf](#)) (*not published*)  
 Authors: Torstein J. F. Strømme, Sondre Bolland, Crystal C. Din, David Grellscheid, Eirik R. Torsheim & Martin Vatselle.  
 Study presented in a poster session at the Norwegian ICT Conference for Research and Education 2021.
- 2019 **The ALIENS Study: Using Artificial Intelligence in Neonatal Sepsis** (*project terminated*)  
 Can exposure to antibiotics be reduced with the aid of Bayesian Networks?  
 Project leader: Jobin K. Varughese.  
 Research collaboration with Helse Førde HF, Helse Stavanger HF, Universitetssykehuset Nord-Norge HF, University of Bergen, Helse Bergen HF & Helse Fonna HF.

## Academic Activities

- 2024            **Hosting the ICT Research School Annual Meeting 2024**  
Three day gathering of 40 PhD candidates and five invited speakers.  
Budget: 280 000 NOK
- 2023 – 2024   **Hva vil DU bli?**  
Presented the field of Informatics to secondary school children.

## Work Experience - Academia

2022 – 2026   **PhD Candidate** with the Didactics research group, Department of Informatics, University of Bergen

2021 - 2022   **Scientific Assistant** with the Didactics research group, Department of Informatics, University of Bergen (*reference pending*)

Teaching, technical development and research aid.

2017 - 2021   **Teaching Assistant** at the University of Bergen in the following courses:

- *Object-oriented Programming*, [2020](#) & [2021](#)
- *Introduction to Programming*, [2017](#) & [2020](#)
- *Introduction to Machine Learning*, [2020](#)
- *Basic Algorithms in Artificial Intelligence*, [2018](#) & [2019](#)
- *Introduction to the Cognitive Sciences*, [2018](#)

As part of my teaching responsibilities, I engaged in a diverse range of activities. These encompassed delivering lectures, assessing student work, facilitating seminars, creating examinations, and developing educational materials.

**Lecturer** for [Tekna](#) in the following subjects:

- *Introduction to Programming*, [2021](#) & [2022](#)
- *Object-oriented Programming*, [2022](#)

Crash courses lasting between four and six hours.

**Informatics Oracle** at the Department of Informatics, University of Bergen ([reference](#))

Academic aid and waffle production. Help students with any academic questions in numerous subjects while making waffles.

**Private Tutor** at Privatundervisningen AS ([reference](#))

Tutoring high school students in social, theoretical and science mathematics.

## Work Experience – Other

- 2016 - 2017    **Shift Leader** at Burger King Sartor ([reference](#))
- 2015 - 2016    **Military Service** in the northern brigade of Norway (2. Battalion)  
([service statement](#))
- 2013 - 2015    **Cashier, Drive-thru & Maintenance** at McDonalds Tiller ([reference](#))
- 2009 - 2011    **Paper Delivery** at Byavisa AS

## Other Positions and Activities

- 2023 – 2025    **Department Council Representative** (*elected, two terms*), Department of Informatics, University of Bergen
- 2023 – 2024    **Substitute Faculty Board Representative** (*elected*), Faculty of Mathematics and Natural Sciences, University of Bergen
- 2024            **Quiz Master** at Programmerbar, University of Bergen
- 2023 - 2024    **Quiz Master** at Integrerbar, University of Bergen

## Miscellaneous

- Hobby pianist ([video clip](#))
- Unofficial world record in stair climbing ([Strava activity](#))