

CV

Name: Sondre Sæther Bolland
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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 evaluating 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 **Ecological Intervention to Increase STEM-Student's Sense of Belonging**
Stage: Data collected and analysis in progress.
Authors: Sondre S. Bolland, Sehoya Cotner & Mirjam Glessmer.
- Identifying STEM-student Challenges and Mitigating their Affect**
Stage: Data collected and analysis in progress.
Authors: Sondre S. Bolland, Emili Rønning, Tiril Try, Sehoya Cotner, Kjersti Daae & Mirjam Glessmer.
- 2023 **National Prior Knowledge Test in Programming** ([report](#), [website](#))
Collaboration between 11 higher education institutions in Norway¹, led by Sondre S. Bolland.

¹ Collaborating institutions: University of Bergen, Norwegian University of Science and Technology, University of Oslo, Kristiania University College, Norwegian University of Life Sciences, University of Agder, Western University of Applied Sciences, Oslo Metropolitan University, Østfold University College, The Arctic University of Norway & University of Stavanger.

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.

Paper presented at the University of Bergen Teaching Conference on Transformative Learning and Teaching 2023 and the Norwegian ICT Conference for Research and Education 2023.

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 Vatshelle.

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.

My role: Advisory position on Machine Learning and programming, and sole developer on a proof-of-concept prototype machine learning application for patient data gathering and medical inference.

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, science and theoretical mathematics (2018).

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 – 2024 **Department Council Representative** (*elected*), Department of Informatics,
University of Bergen

2023 – 2024 **Substitute Faculty Board Representative** (*elected*), Faculty of Mathematics
and Natural Sciences, University of Bergen

2023 **Quiz Master** at Integrerbar, University of Bergen