

SIGFRID STJÄRNHOLM

Physics student & developer

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github.com/kladdy





CAREER SUMMARY

As a student at both gymnasial and University level, I have been engaged in various concils related to my studies. Working as a software consultant alongside my studies have yielded me great experience in how projects develop and has also allowed me to test the waters in a large variety of programming paradigms.

EDUCATION

Master's degree (Master's Programme in Physics)

Uppsala University

p Particle physics

Quantum physics Nuclear physics

Simulations

INTERESTS

Experiments

Open-source

SKILLS & TOOLS Software Python C# / C++ JS / TS / Node.js SQL HTML / CSS LaTeX Git HTTP / DNS Hardware Arduino / Raspberry Pi Computer assembling Circuits Other **Presentations** Giving speeches

Structuring work Getting things done

Collaborative Independent Responsible

Mountain hiking Bread baking

Skiing

റ് Cycling

Computer hardware

HOBBIES

ENGAGEMENTS

Self-employed at

Stjärnholm Consulting Banner carrier for

Norrland's nation (Student association in Uppsala) **1** Test supervisor at the Swedish Scholastic Aptitude

Test (Högskoleprovet, SweSAT) Election worker at the 2022 Swedish general

election

for Uppsala University

The date is 2022-10-08

and the time is 20:02:43

Thave lived for

23 yr, 4 mo, 18 d,

7 h, 21 min, 43 s

occasions

I have donated

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• I have published

3 scientific papers

visited by 50 people

My CV has been

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My website has been

downloaded by 9 people

STATISTICS

♣☐ Hometown ambassador

2021 - Present

A two-year programme at Uppsala University, specializing in the Nuclear and Particle Physics track. The programme reinforces the knowledge within fundamental physics, and with the course collection of mine I have chosen to put a lot of weight on the experimental aspect of particle physics.

Achievements:

- Co-author of a paper published in Astroparticle Physics, and author of conference proceedings for two international conferences (ICRC 2021 and ARENA 2022)
- Student representative in the Programme Advisory Board for the Masters's Programme in Physics
- Recipient of the award 'Best student presentation' at The Student Conference in Science and Technology 2021
- Recipient of the scholarship Hallberg, Malin and Ivar, which is awarded to a 'talented student'

Selection of courses (so far):

Accelerators and Detectors Advanced Particle Physics Automatic Control I Classical Electrodynamics Computer Programming II Electronics I Fluid Mechanics **Electric Measurement Techniques** Industrial Management Solid State Physics F Quantum Field Theory Solid Mechanics Statistical Methods in Physics Symmetry and Group Theory in Physics

A three-year programme at Uppsala University covering a large portion the fundamental

Achievements:

2018 - 2021

involves plenty of rigour in mathematics and a lot of programming.

Bachelor's degree (Bachelor's Programme in Physics)

Uppsala University

 Student representative in the Programme Advisory Board for the Bachelor's Programme in Physics

physics - from classical mechanics to advanced quantum physics. The programme also

- Vice Chairman in the Student Faculty Council for Physics students • Recipient of three prices from the Mathematical Society at Uppsala University for
- distinctive performance in the courses Geometry and Calculus I, Geometry and Calculus III, and Fourier Analysis Recipient of Melanderhjelm's scholarship from the Faculty of Science and

Computer Programming I

Technology at Uppsala University

Analytical Mechanics Complex Analysis

Selection of courses:

Geometry and Calculus I, II & III **Electromagnetism Elementary Particle Physics** Fourier Analysis Linear Algebra II Mechanics KF & III Mathematical Statistics KF Mathematical Methods of Physics Physics Project I & II **Medical Physics Nuclear Physics** Ordinary Differential Equations I Physics Project with a Research Basis Quantum Mechanics **Quantum Physics** Physics and Finance Scientific Computing KF & II Special Relativity **Statistical Mechanics** Thermodynamics **Waves and Optics**

Gymnasium (Natural Science Programme) 2015 - 2018

Björknäsgymnasiet

Electromagnetic Field Theory

A three-year programme at Björknäsgymnasiet involving the natural sciences.

Achievements:

- Chairman in the Programme Advisory Board for the Natural Science Programme • Chairman in the Student Council for Björknäsgymnasiet
- Scholarship from the Natural Science Programme for distinctive performance

competitor in the Nordic-Baltic Physics Olympiad (NBPhO)

- Attendee of a 2-week long internship at CERN (HSSIP) • Finalist in Wallenbergs fysikpris (Swedish national physics competition) and
- Attendee of Berzeliusdagarna, a weekend-seminar for students interested in chemistry
- Attendee of Rymdforskarskolan, a 2-week programme at Esrange space center

WORK EXPERIENCE

2021 - Present With a part-time employment during the Master's Programme, I have worked as a research

Research assistant and teaching assistant

Uppsala University

assistant at the Department of Physics and Astronomy at Uppsala University. I am involved within the Astroparticle Physics research group, coupled to the Division for High Energy Physics (HEP). I have also worked as a teacher assistant at the Department of Information Technology. **Involvements:**

Teacher assistant during fall 2022 in the course Application-Oriented Deep Learning

- in Physics, a course which introduces machine learning, deep learning, and neural networks with a focus on applications in physics. Research tasks related to using neural networks to reconstruct neutrino properties from radio detector data. The work is to be used for an upcoming detector station at
- the South Pole called IceCube-Gen2 radio, and was a continuation of my bachelor's thesis. • Research regarding the use of wind generators and batteries that can handle the extreme cold at the South Pole. The tasks included measuring of generator losses,
- output voltages, as well as battery capacities. • Teaching assistant in Computer Programming II during spring 2022. The course was given in Python, and the tasks included correcting assignments and aiding students with the course material.

Jolix is an IT consulting company specializing in E-commerce applications. At Jolix, I have

2016 - Present

Software consulting

worked on plenty of projects within varying programming environments. The company also runs a small electronics store in Boden named pålyset.se, in which I have worked as a clerk.

Backend development of a checkout system for organizations using C#, Node.js & microservices

Projects:

 Backend development of a message listener for IoT-devices reporting back to a central hub using Node.js

• Frontend development of a dashboard web application for E-commerce admins

CSS

Technologies used:

• Integrating customers to a Storm API in C#

.NET (4.5 & Core) Python Node.js HTML Javascript/Typescript] Git **JSON** Test-driven development Unit testing Microservices React Redux Swagger

C#

Event organizer 2019 - 2021

Lise Meitner-dagarna

Jolix AB

Lise Meitner-dagarna is a yearly weekend-seminar in Stockholm for high-school students interested in physics. During three intensive days, the students get to partake in laboratory experiments, exhibitions and lectures by prominent physicists in a variety of fields. The organizing group consists of 4 members, and about 130 students from all over Sweden attend the event each year.

Roles:

• Head of administration (2019 - 2020): Bookings for hotel, catering, and trips for the whole event. Managing registrations for schools, students, and exhibitors.

• Head of communication and marketing (2021): Designs for mailings.

Communication with schools and students. Upkeep of the website. Photography and social media.