Edvin **Sidebo**

PhD experimental particle physics

Stockholm

+46 (0)705-485341 | sidebo@kth.se | edvin-sidebo-81abb373

Skills

Excellent:

- python. Experience of jupyter notebooks, scipy/numpy.
- C++.
- statistics and mathematical modelling. Familiar mostly with frequentist methods.
- simulations (Monte Carlo).
- git and svn.
- bash/terminal.
- LaTeX.
- vim.
- radiation (-matter-interaction).
- Swedish (native) and English (fluent in speaking and writing).

Very good:

- Docker.
- machine learning. Experience of neural networks and boosted decision trees.

Good:

- pandas.

Work experience

PhD experimental particle physics

Stockholm and Geneva

Royal Institute of Technology

November 2013 - September 2018

- Part of the ATLAS experiment at particle physics laboratory CERN outside Geneva. By analysing data from the proton collisions produced by the Large Hadron Collider me and my group measured properties of the newly discovered Higgs particle. The research consisted largely of data analysis, visualisation and application of statistical methods on the large ATLAS dataset. For two years I led the project to estimate one of the contaminations of the dataset. This estimate and its corresponding uncertainty was a key component without which publication was not possible.
  → `[Link-Thesis]` `[Link-PopularScienceArticle-Fysikaktuellt (p. 8)]`
- During the time I became an expert within my subfield and was a key person relied on in the group.
- Lived in the Geneva area and worked at CERN for about one year 2016-2017.
- Experience of working with artificial neural networks used for classifying pixel clusters in the ATLAS detector.
  → `[Link-Proceeding]`
- Much experience of documenting work and presenting it to different crowds. I presented at weekly, video-based meetings in working group, more formally for larger audience at conferences on 3-4 occasions, popular science talks at 3-4 occasions. I am good at putting myself into the listeners perspective and adapt a presentation accordingly.
- Have taught undergraduate physics students in laboration exercises about radiation, detection techniques, statistics, data analysis. In total about 200 hours in the lab, in addition to time spent developing and improving the classes. I was responsible for developing a computer based particle physics lab: spent one month setting it up with a Docker plus jupyter notebook solution. The concept was appreciated by students and teachers who are now taking it further to be used in future courses.
- During six months I supervised a master student in our group at the university, who later got the highest grade (A) on her work.
- As part of the PhD I have taken courses, e.g. the CERN School of Computing (IT security, data analysis, data storage, good software practises etc.), Advanced Methods in Statistical Data Analysis, Quantum Field Theory.
- Organised a “particle physics afternoon” (talks, quizzes and hands-on exercises) for students at my old high school together with my colleague. The teachers were very pleased with the event which engaged and inspired the students.

Investigator

Sundsvall

Sundsvall Elnät

Summer 2012, year-end 2012/2013

- At the electric power grid company in my home town I worked with optimising the size of cables and analysed a network regulation model. I learned to take responsibility for my own work and to convince myself and others about results and conclusions.

Teacher

Umeå

NTI-gymnasiet and others

Fall 2013

- Teacher substitute, mostly at upper secondary level in chemistry and physics. I learned to adapt to different situations and students. After being a substitute I got a contract on a few months to help a student with special needs in chemistry.

Teacher (voluntary work)

Gangkharka, Nepal

Helambu Project

February - May 2011

- Teaching in math and physics on a boarding school in a mountain village in Himalaya, for children in ages 7-15. I set up the curriculum myself and made it work in an environment with scarce resources.

Education

Swedish economic history

Umeå

Umeå University

Fall 2012

- Level 1 course: Firms, markets and competition in change. Grade: VG (highest grade).

M. Sc. and Civil Engineer in Engineering Physics

Stockholm

Royal Institute of Technology

2007 - 2013

- Master track: subatomic and astrophysics, with thesis about the Higgs particle.
- A selection of taken courses: Numerical Methods, Fundamentals of Data Science, Program construction, Quantum Physics, Nuclear Physics, Particle Physics, Astrophysics, Industrial Ecology.

Missions of trust

Board member

Stocksund (Stockholm)

Fabriken 4 housing association

August 2017- present

- Board work: responsible for the association's economy, service and administration. I have identified areas of interest for investments to improve the economic situation of the association and its members.

Table tennis coach

Timrå

Delta Bordtennisklubb

2005-2006

- Coach once a week for children in ages 8-15. Responsible for planning and leading practise, coaching at competitions.

Honors and awards

Received a travel grant in the spring of 2018 from the Royal Swedish Academy of Sciences (10 000 SEK).

Other

Driver's licence: B.

Personal interests

In my spare time I enjoy meeting friends and spending time with my girlfriend and family. I'm very fond of ball games and like to work out regularly at the gym (given they have a sauna!). I spend time on food, both visiting restaurants and cooking myself. Lately, I have tried to explore the Chinese cuisine. There is some more to read about me in this article `[Fysikaktuellt-2018-3]` (p. 10).

References

Available on request.