Edvin **Sidebo**

PhD experimental particle physics

Stockholm

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

Junior Algorithm Developer

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Dear Samuel, Tobii,

I was truly inspired by Peter Schef when he came to my previous workplace to talk about life and work at Tobii. It was exciting to see how eye tracking applications span from assistive technology to research and gaming. It certainly seems true that only imagination limits its use. I would really like to contribute to overcome the challenges in making the technology work broadly, at scale.

I recently graduated from the Royal Institute of Technology (KTH) in Stockholm where I did research as part of a large international collaboration based at the particle physics laboratory CERN outside Geneva. My main project concerned a measurement of one of nature's fundamental particles (the Higgs boson). This was done together with my research group by filtering the experiment's large dataset of proton collisions for this particle. For two years I led the effort to estimate one particular source of contamination of the data, the estimation of which was crucial to reach publication. The contamination was special in that it's not easily estimated using standard simulations–more unconventional, data-driven solutions had to be found. In this effort I developed a strong analytical skill set and a creative mind. The data analysis was performed in C++ and python, in which I have acquired strong skills. I learned a lot about advanced statistical methods which were applied to extract the most out of the data. In addition, I gained experience with multivariate and machine learning techniques, which would come in useful for this position. For example, I worked on evaluating the robustness of the artificial neural networks used to classify the pixel clusters (images) input to particle track formation. In the main project, boosted decision trees were trained to identify data containing the signal particle.

Having worked in a large collaboration I realise the importance of good coding practises and version control (I am comfortable using git). I think this will be an asset for the job as an algorithm developer, like my interest in software: while many I worked with tried to move as quickly as possible to results, I enjoyed spending a little extra time on making code more elegant and stable. Furthermore, I have come to appreciate the benefits of automating–more often than not one will find the need to repeat a task.

My colleagues would describe me as positive and stress resilient, capable and with a will to understand. When faced by a new, difficult problem, I see it as a challenge and an opportunity to learn new things rather than getting scared or uncomfortable. For example, I was given the job to develop and set up a laboration exercise for teaching purposes. After considering different alternatives, I realised a solution based on Docker (which I then educated myself in) would be a neat way to eliminate the need for software installation on the student side.

I hope I with this letter have convinced you that I am worth considering, and that I will hear from you shortly!

Best regards,
Edvin