JAKOB OLSEN

B.Sc.

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PROFILE

Graduate from Aalborg University anno June 2022 as B.Sc. in Mathematical Engineering and currently studying to finish my master's.

My bachelor's degree has mostly focused on signal processing concerning predominantly audio signals but I have also worked with images, and radar signals to name some others. Furthermore, the approach at Aalborg University is for us to write a semester project every semester. With this approach, I have faced new problems every semester, and have therefore been required to study many different fields of work. As an example, I was working with satellite tracking for my bachelor thesis, which required that I first understood the type of signal I was dealing with and then gained knowledge of orbital mechanics for the data to make sense. Being used to studying different fields is something I see as a big advantage when I start to work in a new place where there might be many things I have never heard of before. One of the most interesting aspects of my education from my perspective is the programming part, where you get to challenge your creativity to find a smart solution to a problem. Therefore I am also curious to learn more about machine learning in my current semester, but also to learn more programming languages in the future.

Aside from my education I used to be an elite cyclist and was a part of the danish national team from 2012-2016. I think this background has taught me that hard work is key to achieving what you want. From a working perspective, I think this comes to good use when I am faced with new and challenging problems.

SKILLS

Language

Danish	●●●●● *(Native)*
English	●●●●● *(Fluent)*
German	●●○○○ *(Limited)*

Programming & Version Control

Advanced	Python
Fundamentals	R, Matlab, LaTeX, GitHub

EDUCATION

M.Sc. in Mathematical Engineering
Aalborg University
September 2022 – Now

B.Sc. in Mathematical Engineering
Aalborg University
September 2019 – June 2022

Business College (HHX)
Silkeborg Business College
August 2014 – June 2017

SEMESTER PROJECTS

Titles for Semester Projects:

6th	Satellite Tracking Using Multi Hypothesis Tracking and Kalman Filter
5th	Estimation of Currents and Voltages in an Electrical Grid
4th	Siren Detection
3rd	Inverse Pendulum
2nd	Fingerprint Verification
1st	RC Circuits

Bachelor Thesis

The bachelor thesis, 6th semester, was made in collaboration with Weibel Scientific A/S. The project concerned satellite tracking and we chose to use an approach called Hypothesis Oriented Multiple Hypothesis Tracking (HOMHT). Using this algorithm we were able to track multiple satellites within the field of view of the radar even with a relatively low signal-to-noise ratio. Aside from the HOMHT algorithm, a basic understanding of radar signal and processing was required together with some orbital mechanics used to transform the recieved data to a more convinient coordinate system.

WORK

Ski Instructor

Perisher Blue Pty Ltd.

July 2019
Australia

- Primary teaching kids (age 5–7) and group lessons with adults.

Farm Work

Culverthorpe Pty Ltd.

February 2019 – June 2019
Australia

- Painting fences, Concreting, building fences.

Freelancer

Mascot International A/S

November 2018 – February 2019
Denmark

Ski Instructor

Perisher Blue Pty Ltd.

June 2018 – September 2018
Australia

- Primary teaching kids (age 5–7), private lessons, and group lessons with adults.

Freelancer

Mascot International A/S

April 2018 – June 2018
Denmark

Ski Instructor

Ski und Snowboardschule Wagrain

March 2018
Austria

- Primary teaching kids (age 5–7), private lessons, and group lessons with adults.

Freelancer

Mascot International A/S

August 2017 – January 2018
Denmark