

# EMIL SEBASTIAN RØMER

## Software Engineer at Ramboll Denmark & M.Sc. Software Engineering

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## EXPERIENCE

### Software Engineer

#### Ramboll Denmark

06-2017 – Ongoing

Copenhagen

- **Designing simulation software for Facilities Management.** My main responsibility have been the full-stack development of a web-based simulation software for strategic planning of maintenance procedures in facilities. This includes many meetings with various stakeholders for requirement engineering as well as the design, implementation, test and validation of both software and the results it produces.

### Student Programmer

#### SDU, Mærsk McKinney Møller Institute

09 2015 – 06-2017

Odense M

- **Building low-energy portable Bluetooth trackers for occupancy detection.**
- R&D'ed state-of-the-art solutions to improve indoor occupancy detection.
- Prototyped custom circuits,
- Programmed the AtMega328P in C++
- Conducted real life tests in local schools.

### Intern

#### Ramboll Denmark

08-2016 – 12-2016

Copenhagen

- Researching simulation models for building decay.

### Student Programmer

#### Powel Denmark

12-2013 – 08-2015

Kolding

- Developing systems dealing with nationwide utilities infrastructure.

### 3'rd Level IT Support (Volunteering)

#### Roskilde Festival

06-2013 – 07-2017

Roskilde

- Setup & IT support of festival infrastructure.

## EDUCATION

### M.Sc in Software Engineering

#### University of Southern Denmark

09-2014 – 06-2017

**Focus of study:** Advanced software design, data analytic and AI

**Thesis:** *Decision Support Systems for Budget Optimization of Building Management*

In collaboration with Ramboll Denmark, The Capital Region of Copenhagen & The Municipality of Hillerød. **Grade: 12 / A**

**Results: GPA: 11.1 / A**

### B.Sc in Software Engineering

#### University of Southern Denmark

09-2012 – 06-2015

**Focus of study:** Requirement engineering, software- architecture & design patterns, software-maintenance & tests and process-design & development

**Thesis:** *Recognizing and Visualizing Energy Consumption Patterns of Buildings Using Data Mining.* In

collaboration with the municipality of Odense. **Grade: 12 / A**

**Results: GPA: 9.9 / B**

## PROGRAMMING LANGUAGES

HTML5

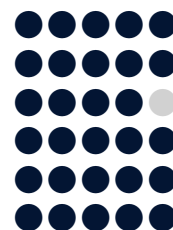
Java

C#


Python


mySQL


PostgressSQL





## PROJECTS


 **Motion sensor**  
In a 4-month project, a team and I developed a sensor that registered people walking on a stair. Through the use of an Arduino, data would be collected on a server.


 **Wifi Fingerprinting**  
Through the use of WiFi sniffing and statistical machine learning, in collaboration with a team, we dynamically built models of buildings and estimated the location of the sniffing phone.


 **Image Recognition of Whales**  
Together in a team, we started building a system that would recognize individual North Atlantic Right Whales from images, to help a group of marine biologists with tracking the species.

 **Domain specific languages for building dashboard web applications**  
In order to deal with the high requirements of customizable dashboard applications for data exploration and visualization, a fellow student and I developed a prototype DSL for building custom dashboard applications

 **Augmented spray can**  
By augmenting the physical surroundings through a phone, together in a team, we turned a smart phone into a spray can, where everyone could *tag* everything everywhere

 **Pill Dispencer**  
Together with an interdisciplinary team, we developed a prototype of a pill dispensing box that would keep track of the medicine in the box as well as dispense the right medicine at the right time

 **Common Diabetic**  
Is a project that sat out to help people with diabetes through a Android app that helps the individual keeping track of medication

 **Platform for teaching children**  
In collaboration with the school of Søhus, a team and I developed and tested a prototype platform that can be used in schools to teach children

## LANGUAGES

Danish ●●●●●  
English ●●●●●  
German ●●●●●

## SKILLS


Artificial Intelligence ●●●●●  
Machine Learning ●●●●●  
Simulation Modelling ●●●●●  
Distributed Computing ●●●●●  
Amazon Aws ●●●●●  
MS Azure ●●●●●  
IBM Bluemix ●●●●●  
IoT ●●●●●  
NoSQL ●●●●●  
NewSql ●●●●●


## INTERESTS

In my spare time, I usually draw or take up different IoT projects around the house.

Further I enjoy cooking a great meal for my girlfriend and friends, -especially I have a passion for Mediterranean styled food which culminates in many trips and cooking classes.

## RECOGNITIONS & PUBLICATIONS

 **Danfoss Engineering Tomorrow 2016**  
Winner: Bachelor thesis on energy consumption pattern recognition.

 **Publication**  
Clustering and Visualisation of Electricity Data to identify Demand Response  
Opportunities: Poster Abstract in collaboration with M.Sc Almir Mehanovic, Ph.D Jakob Hviid and Ph.D Mikkel Baun Kjærgaard.