

# Claus Lensbøl

SOFTWARE ENGINEER · TELECOMMUNICATION

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## Summary

Collaborative engineer with a flair for all things internet and their implementations. A strong background in Linux and experience working with digital communication in various ways. Interests lie in complex networks, mobile communication, realtime network synchronisation, software development, OpenSource, network protocols, multicast networking, and data mining. Good theoretical background, but not afraid of practical work. Works great independently as well as in teams. Social and outgoing.

## Skills

<b>Programming</b>	Ruby, Python, C, C++, Java, Bash, Matlab, $\LaTeX$
<b>Code management</b>	Git, Gitlab/Github, Jenkins, Jira, Crucible
<b>DevOps</b>	Docker, Vagrant, Ansible, Puppet
<b>Frameworks/SDK</b>	Ruby On Rails, Android, Sinatra
<b>Languages</b>	Danish, English
<b>Other</b>	In-depth network protocol knowledge, Advanced Linux administration, BGP on OpenBSD, ZFS, CCNA, CCNP

## Education

### DTU (Technical University of Denmark)

Kgs. Lyngby, Denmark

MSc. ENG. TELECOMMUNICATION

Aug. 2016 - Jun. 2018

- Theory and implementation in telecommunication related subjects.
- Specializing in Networks & Protocols, with a focus on courses as *Software-Defined Networking*, and *FPGA design for Communication systems*.
- Spent a semester abroad studying at KAIST in South Korea in the fall of 2017 studying amongst others *Telecommunication software design*.
- Master thesis: *Improving multicast applications in WiFi environments*. Making changes to Linux kernel drivers to change Multicast behaviour as well as a test framework written in Ruby - [github.com/cmol/multicast-perf-test](https://github.com/cmol/multicast-perf-test).

### DTU (Technical University of Denmark)

Kgs. Lyngby, Denmark

BSc. ENG. IT & COMMUNICATION TECHNOLOGY

Aug. 2013 - Jun 2016

- Theoretical background in networking and internet, backed by project implementations.
- As part of a DTU course I did a port of the Cubesat Space Protocol from FreeRTOS to eCos - [github.com/cmol/libcsp](https://github.com/cmol/libcsp).
- Created an in home light automation system similar to the Phillips Hue as part of a course project - [github.com/cmol/arduino-rgb](https://github.com/cmol/arduino-rgb).
- Bachelor thesis: *High precision timing in mobile fronthaul networks*. Implementation of the Precision Time Protocol in Ruby and C for my bachelor thesis. Created to test different aspects of the timing algorithm - [github.com/cmol/ruby\\_ptp](https://github.com/cmol/ruby_ptp).

### Technical Education Copenhagen

Ballerup, Denmark

DATA TECHNICIAN

Oct. 2008 - Jul. 2013

- Practical work with networking, system administration and programming. A very hands-on education.
- Nominated for honorary scholarship.
- Final project: OpenVPN wrapper for P2P VPNs behind NAT with UPnP-IGD, NAT-PMP and UDP hole punching - [github.com/cmol/punchVPN](https://github.com/cmol/punchVPN).
- Internship at Fab:IT Aps.

## Experience

### Zeuxion Aps

Værløse, Denmark

SOFTWARE AND FPGA DESIGN ENGINEER

Sep. 2018 - current

- *Consultant work for third party companies, internal education and DevOps.*
- Implementing highspeed packet transfer DMA mechanism in RTL.
- Implementing a Hardware Abstraction Layer in a large C++ codebase to make it possible to use current software on coming hardware platforms.
- Development of software for highspeed network testing equipment based on ARM Linux platform with Qt frontend.
- Porting existing embedded C application for network hardware into FreeRTOS to allow multiple concurrent streams and simplify development.
- Starting and organizing internal education session scheme for developing skills within the organization, and for promoting an information sharing culture. I have amongst others been teaching Collaborative development with Git.
- Reworking internal IT infrastructure to ease deployment of new services and to align user experience across all work environments.

## Fab:IT ApS

LINUX DEVOPS AND SYSTEM ADMINISTRATOR.

Copenhagen, Denmark

Aug. 2013 - Jun. 2018

- *Managing networks, virtualization, storage and Linux/BSD environments.*
- Running, maintaining and upgrading a high performance DNS cluster as well as developing tweaks to internal resolvers for optimizing network performance. Deployment of DNSSec.
- Developing server automation for installation and lifetime management of Linux servers.
- Developed programs for gathering statistical data on runtime metrics.
- Design, implementation, testing and deployment of IPv6.

## Talent programs

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### Huawei: Seeds for the future

Beijing/Shenzhen, Beijing

SELECTED STUDENT

Jul. 2016

Selected to be part of the Danish delegation for the program. This has included a stay in China with other students in the program to learn more about Chinese culture as well as network theory for mobile communication and fiber-to-the-home connections.

## Course details

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### Telecommunication software design

Daejeon, S. Korea

KAIST (KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY)

Fall 2017

Design and implementation of physical layer, data link layer and network layer protocols.

### Software designed networking

Kgs. Lyngby, Denmark

DTU (TECHNICAL UNIVERSITY OF DENMARK)

Spring 2017

Design and implementation of network services using the Software Defined Networking (SDN) paradigm.

### FPGA design for communication systems

Kgs. Lyngby, Denmark

DTU (TECHNICAL UNIVERSITY OF DENMARK)

Fall 2016

To analyze and design integrated circuits based on FPGA technology for use in broadband communications.

### Introduction to mobile communication

Kgs. Lyngby, Denmark

DTU (TECHNICAL UNIVERSITY OF DENMARK)

Fall 2015

Mobile and data communication in current and future cellular networks.

## Publications

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### Caching at the Mobile Edge: a Practical Implementation

Kgs. Lyngby, Denmark

IEEE ACCESS

2018

Justas Poderys, Matteo Artuso, Claus Michael Oest Lensbøl, Henrik Lehmann Christiansen, and José Soler.

## Volunteer

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### OpenSource contributions

TRANSLATOR, BUGFIXER

Throughout the years I have made a range of OpenSource contributions. These contributions range from translations for applications, to bug fixes for various projects.

## Personal life

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Much of my free time is devoted to different projects. I am currently playing in a band as a drummer and also managing many of the technical aspects related to sound engineering.

I attended *Den Rytmske Højskole (DRH)* (The rhythmic folk high school) in the spring of 2008 to further my music and collaborative experiences. During that time, I was in charge of organizing a tour in Denmark for my own and other bands.

In my youth, much of my time was spent as a scout at the local group. In my later years, I worked as a troop leader.

Besides using my time being creative with music, I have enjoyed experiencing the world through my exchange and by travel.

## References

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References can be provided by request.