Lasse Letager Hansen

Curriculum Vitae

CONTACT INFORMATION

First name	Lasse Letager
Surname	Hansen
Address	Aprilvej 2, 8210 Aarhus V, DK
Telephone	+45 60 46 45 94
Email	lasse@letager.dk

EDUCATION

- MSc in Computer Science, Aarhus University
  - Elected directions: Cryptography and Programming Languages
  - Average: 10.60 (unweighted), 10.83 (weighted) out of 12 (danish 7 point grade scale)
- BSc in Computer Science, Aarhus University
  - Elected courses: Linear Algebra, Algebra, Machine Learning
  - Average: 10.38 (unweighted), 10.48 (weighted) out of 12 (danish 7 point grade scale)
- STX, Egaa Gymnasium (Physics A-level, Mathematics A-level, Chemistry B-level)

COURSES

Cryptography: Cryptology, Cryptologic Protocol Theory, Cryptographic Computation
Programming Languages: Functional Programming, Language-Based Security, Program analysis and Verification

Research Projects

Spring 2020 I wrote my masters thesis on M-types and coinduction in cubical type theory/homotopy type theory formalized in Cubical Agda. As part of that I contributed to the Cubical Agda GitHub repository.

Fall 2019 I followed a reading course on homotopy type theory (HoTT), not for credit, supervised by Bas Spitters (associate professor). I also did a research project, supervised by Lars Birkedal (professor), about describing/representing co-inductive data structures in HeapLang/Iris, which taught me about modal and Hoare logic and guarded recursion.

Spring 2019 I did a research project on developing a framework for formalizing cryptography, supervised by Bas Spitters (associate professor). We constructed a translation from "pwhile" a simple probabilistic imperative language to "$\mathcal{R}$ML" a probabilistic ML-like language, which gave me insight in measure theory and the formalization of cryptography, while giving me experience in using Coq for larger projects.

Fall 2018 I did an elective course on category theory held by Lars Birkedal (professor) and Aleš Bizjak (postdoc), where we followed Steve Awodey's book "Category Theory." I also participated in the EUTYPES2018 conference.

Spring 2018 I did a research project, supervised by Aslan Aaskarov (associate professor) and Lau Skorstengaard (PhD.). The project was about capability machines, in the project I used the capability machines to develop a more secure implementation of inline reference monitors.

General I have participated in most of the weekly group meetings in the research group for Logic and Semantics at Aarhus University, from 2018-2020, giving me insight into the research community.

SKILLS

Coding skills

I have devoted a lot of time coding in proof assistants: Cubical Agda for my masters, Coq for a research project in the Spring of 2019, and Iris/HeapLang for a research project in the fall of 2019. I am confident with coding, since I have spent hundreds of hours coding in multiple programming languages (C++,C#, Python, Rust, Haskell, OCaml, SML, etc.) for spare time, school and as a job.

Language skills

Danish (Native), English (Fluent), Chinese (High-school A-level), German (Entry)

PREVIOUS JOBS

Research Assistant with Bas Spitters

I am formalizing smart contracts, for that purpose we are part of creating a specification language (Hacspec) for Cryptographic protocols, which can be translated to Coq, `F*` and EasyCrypt.

Junior software developer at Danske Commodities

I helped design and program a framework for python scrapers, and had a lot of responsibility in developing and fixing important systems.

Studycafé assistant at Egaa Gymnasium

Helping people with homework and hand-ins in a high-school study café, primarily focused on mathematics, physics, chemistry and biology.