CHRISTOPHER FREDÉN

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EXPERIENCE

Nortical as Backend & Infrastructure Engineer *from 2022*

A start-up that focuses on creating services around analyzing and predicting battery behaviors mostly in the electric vehicle sector.

My role is in infrastructure, where we create and maintain the services which collect data and make it easily accessible for the data science team.

I focus on our build system and developer experience. Improving our in-house tooling and making it easily available for the rest of the teams.

We utilize Google Cloud Platform to create a flexible system which can collect large amounts of vehicle data that then can be analyzed and refined. We mostly write programs in Python and TypeScript but we also have small parts written in Go and Elixir.

Maker DAO as System Developer *between 2018 — 2021*

A Decentralized Autonomous Organization aiming to create a stable crypto-currency on the Ethereum blockchain.

The core of the system was a set of Solidity smart contracts with off-chain tooling and services supplying data and features to the ecosystem.

Work was remote-first and our agile team consisted of 4-5 members distributed across several time zones.

Most of my work was centered around writing and maintaining services that supply currency exchange data to the core smart contracts. This needed to be done in a secure and decentralized manner to prevent price manipulation attacks at the same time as being transparent and auditable.

Programming languages used where diverse, ranging from Bash to Elixir but later mostly converging on Go for new projects.

Accomplishments include optimization and automation of build and deployment of core smart contracts in a deterministic manner using Nix.

Seal Software as System Developer *between 2015 — 2018*

On premise and cloud product for judicial contract discovery and analytics.

Seal used Natural Language Parsing and Machine Learning to identify customer files that are judicial documents, annotating them and making them available for search and analysis.

The processing pipeline was mostly written in Java with the exception for some Scala components. The GUI was web based and

written in Angular and more recent components in React and Redux using TypeScript.

Notable customers include Google, PayPal, Dell and Salesforce.

Early on I took initiative in making the integration API more concise and improving documentation for customers. This also included support policies for API versioning and client/backend code generation from an API spec. format.

I also pushed for deterministic software builds to improve DevOps, QA and overall developer experience using Nix, NixOps and Hydra.

Kartena as System and Web Developer *between 2005 — 2015*

Kartena did mostly consulting for Geographical Information System (GIS) needs, such as map clients, real time positioning and route optimization.

We developed our own platform for serving maps on the web. I created our first pure JavaScript and HTML map client that replaced our Java Applet based one.

After that I was involved in many different projects most of which where web based. We mostly developed in .NET but later projects I started where Node.js based.

Starting out we used Extreme Programming as our development methodology but later moved on to Scrum.

Notable projects at Kartena

Ledningskollen for *Swedish Post and Telecom Agency* was a large system delivered to the Swedish government for aiding companies and the government itself in keeping track of underground infrastructure and minimizing the risk of damage by e.g. excavations.

This application has many parts, but it is essentially an issue tracking system where people who need to excavate create tickets through a

public web site. The tickets will then be sent to companies whose cables run the risk of being damaged by said excavation.

I designed and led the implementation of a web based mobile client for creating excavation issues in the field and developed the web based drawing tools for geographical input.

I also led the design work for the second iteration of the public API.

Tourmanager for *Nestle*, an application for planning and real-time monitoring of ice cream vans for Nestle subsidiaries in Sweden, Norway, Denmark and Finland.

Server side built with C# .Net, MS SQL, nHibernate. The user interface is a rich web browser client written in JavaScript.

I designed the administrative GUI and implemented most of the web client.

[Proj4Leaflet](#) was my idea for a Leaflet (a browser based map client) plugin that adds custom projections using Proj4 and released as open source.

[printlet](#) was another small tool I created to generate static images from map tiles. Built using Node.js and released as open source.

Heliospectra as System Developer *between November 2010 — January 2011*

Heliospectra developed a "smart", energy efficient, autonomous lamp for greenhouses. I was hired to write the software for their prototype.

The lamp controller was an embeddable ARM-processor which ran Linux. I wrote a scheduler and a simple socket command interface for it in Python. I also configured the Linux distribution and created a way to easily flash the entire setup to a unit.

This job was parallel to my employment at Kartena.

Göteborgs Stadsbyggnadskontor (City Planning Department) as System Developer *in 2005*

Designed and developed a web based project management system for the landscaping department. The project was built with a PHP, Apache HTTP and MySQL setup and run on a FreeBSD server.

EDUCATION

Functional Programming Principles in Scala at École Polytechnique Fédérale de Lausanne (University), Online (Coursera) in *spring 2014*

Information technology, electronics and science at IT-Gymnasiet (Upper Secondary Technical School), V. *between Aug 2002 — Jun 2005*

- Scholarship for excellent programming skills
- Scholarship for excellent completion of final project (construction of a hi-fi stereo amplifier).

LINKS

- **icetan.org** my personal homepage
- **randomware** is a consulting company I am co-founder and CEO of
- **resha** is a simple CLI for keeping generated files in a repo in sync (written in Rust)
- **Nixiform** enables you to provision infrastructure with Terraform and manage configuration with NixOS
- **Dr. Markdown** is a web based markdown editor used to write this CV
- **sqlitepipe** pipe data from SQLite