# Björn Jensen-Urstad

CONTACT INFORMATION

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## QUALIFICATIONS AND INTERESTS

Distributed systems, Erlang/OTP, embedded systems, low power embedded, software development, scaling, databases, protocols, functional programming, low level programming, fault tolerance, network protocols, eventual consistency, software architecture, message queues

## **A**VAILABILITY

• Geographic location is flexible, but there is preference for Stockholm, Sweden

#### **EDUCATION**

## Royal Institute of Technology, Stockholm, Sweden

B.S., Computer Science, 2006-2010, specializing in software development

MS.S., Computer Science, 2002-2004, four semesters out of 9

Hersby gymnasium, Lidingö, Sweden

Upper secondary school, 1997-2000

# PROFESSIONAL EXPERIENCE

Self employed, Stockholm, Sweden

IT Consulting August 2013-

• Designed, implemented and deployed a distributed batch processing system using Zookeeper, Riak and Erlang/OTP.

Kivra AB, Stockholm, Sweden

## Developer

## March 2013 to September 2013

• Architecture, development and maintenance of the services that made up Kivra's system.

## Klarna AB, Stockholm, Sweden

## Developer

# March 2010 to January 2013

- Extended an existing transactional database (Mnesia) with features to allow parts of the data to be shared (read/written) in an eventual consistent manner. This involved writing a framework to allow easy transformation of keys/values between two very different databases with different availability requirements, adding vector clocks to an existing database schema and mechanisms to transport/sync data over RabbitMQ. The databases are the core of a business with a monthly revenue of 200 million USD
- Architecture and implementation of the alpha version of Klarna's checkout
- Experiments with automatic fraud detection
- Rewrote and replaced Klarna's old fraud checking system with a DSL accessible through a web GUI. This gave staff more freedom to express what they want and the possibility to change rules without involving developers
- Lots of minor features for the business such as integrating with new credit check agencies, refactoring code

Posten AB, Stockholm, Sweden

<u>Mailman</u>

2001 to 2002 and 2004 to 2005

#### **M**EMBERSHIPS

## Housing Cooperative, Bjornligan

2007-2010

• Board of directors and responsible for the economy

## EFF (Electronic Frontier Foundation)

2010-

#### SERVICE

Written several open-source projects (see github), including:

- Crontab implementation in Erlang
- Unique id generator in Erlang
- NNTP fetcher/assembler in Perl
- Socks 4/5 proxy in C++ (single thread using nonblocking IO)

#### SKILLS

#### Software development:

 Worked with Scrum, Kanban, Git, Subversion, test driven development, property based testing

# Computer Programming:

- Excellent knowledge of Erlang/OTP and functional programming
- Good knowledge of C, C++, Perl, Java, PHP, Ruby, Scala
- Experience with JavaScript, Python, Haskell, Prolog, VHDL, XML/XSLT, nios2 and PIC assembly

# Information/Internet Technology:

- Written my own TCP/IP stack running on a 8 bit microcontroller. From transport layer up to application layer (Ethernet, ARP, IP, ICMP, TCP, UDP). Implemented a simple webserver and bittorrent tracker on top of it
- Written servers and or clients for FTP, HTTP 1.0/1.1, SMTP, DNS, POP3, Jxta, NNTP, Irc, BitTorrent and Socks 4/5
- Done web development in PHP, Ruby on Rails, Perl, CGI, Yaws

# Operating Systems/Software:

- GNU/Linux user since 1996, experience with OpenBSD and Solaris
- Experience with Apache, PostgreSQL, Bind, Riak, Rails, Spring, JPA, Hibernate, RabbitMQ, ZooKeeper, HAProxy

## Hardware/Embedded systems:

• Experience with PCB design and creation in CadSoft Eagle (2-sided), digital electronics, low power embedded systems, Microchip PIC 8 bit family

# EXTRA-CURRICULAR ACTIVITIES

My current passion is rock-climbing, in particular sport-climbing and trad-climbing. Diving has also been a big interest in my life for the last 7 years and I enjoy all parts of it, from advanced cave-diving and deep-diving to educating new divers.

## **OTHER**

I speak/write Swedish fluently and have some German skills. I have a drivers licence.