Gustav Grusell

Highly experienced developer with a keen interest
in video encoding and streaming technologies.

Experience

2015 - **Developer and scrum master, Team Videocore, Sveriges Television AB**

The videocore team at SVT is responsible for the transcoding and publishing of all VOD content for SVT's online platforms. As a developer, I take part in development and maintenance of a system of microservices that handles transcoding, packaging and publishing of VOD content. The majority of the microservices are built with gradle/kotlin/spring boot. Frequently used technologies are MariaDB, redis, elastic search and Apache Kafka. While mostly doing backend development, I also do smaller amounts of frontend development of internal tools with JS and React.

Starting in 2019, I also have the role of scrum master in the videocore team. As a scrum master, I am responsible for helping the team maintain and improve the agile process, and for ensuring the team can perform at its highest level.

During my time at SVT I have acquired both solid knowledge about, as well as a keen interest in, video encoding and streaming technologies.

Some of the highlights from my time at SVT:

- Building **Encore**, our own open source transcoding solution based on FFmpeg, and migration to encore from our previous proprietary solution.
- Transitioning the video workflow from external packaging (dash/hls) to handling packaging ourselves with shaka packager.
- Implementing hevc-transcoding to increase visual quality and decrease bandwidth
- Development of machine-learning based tool for end credits detection.

2014 - 2015 **Senior Lead Developer, Bisnode Sverige AB**

Development of a system for distribution of business data. I have taken big responsibility in development of new subsystems. Development was done using Java, Groovy and Spring. I worked as part of a small agile team.

2010 - 2014 **Java developer, Smartstream Technologies GmbH, Austria**

Development of account reconciliations systems for customers in finance. System was first deployed on Gigaspaces but was then migrated to JBoss Fuse. I lead the work in optimizing the software for resource utilization and throughput, and the migration from Gigaspaces XAP to Fuse Fabric. Development was done with Java and Spring.

2006 - 2008 **Software Consultant, Gnistra AB**

Worked with Java development with JSF, hibernate, as well as development of industrial ultrasonic measuring systems with LabView. Independent work in smaller projects in close collaboration with customers.

2004 - 2006 **Research scientist, environmental modeling, ESS GmbH, Austria**

ESS is a software company specialized in systems for environmental data and environmental modeling. The work was mainly development of software processing for simulating environmental processed, and development of web-based user interface for the simulations. The work included numerical modeling in c++, user interface development in PHP and JAVA, and database management with MySQL.

Education

2013 - 2014 **Master's program in Social-Ecological Resilience for Sustainable Development, Stockholm Resilience Center**

2009 **German language, Vienna university**

1996 - 2003 **Master's Program in Environmental and Water Engineering, Uppsala University**

Technical Experience

Programming Languages Java, Kotlin, JavaScript, c++, Groovy, python, Labview/G, bash, emacs-lisp, clojure, R

Frameworks Spring-boot, React

Technologies Docker, Kubernetes, FFmpeg, Apache Kafka, MySql/MariaDB, Redis, Elastic Search, Cassandra, Oracle, MSSQL, Apache cassandra

Open Source Projects

Encore A scalable video transcoding tool, built around FFmpeg. Built by the videocore team at SVT. `https://github.com/svt/encore`

Vivict An easy to use in-browser tool for subjective comparison of the visual quality of different encodings of the same video source. Built with react and js. I created this because I saw a need for simple free tool for comparing video quality. `https://github.com/svt/vivict`

Vivict++ An easy to use desktop tool for subjective comparison of the visual quality of different encodings of the same video source. Based on ffmpeg/libav, it supports a much wider range of codecs and formats than vivict. Built in c++. `https://github.com/svt/vivictpp`

Human Languages

- Swedish - native speaker
- English - fluent
- German - fluent

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