Curriculum Vitae

Andrej Lamov

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Education

MSc (Civilingenjör) Computer Science at Chalmers University of Technology *2008 – 2016*

I study the Master's Program *Computer Science - Algorithms, Languages and Logic*. Relevant courses: *Functional Programming*, *Advanced Functional Programming*, *Parallel Functional Programming*, *Algorithms*, *Advanced Algorithms*, *Discrete Optimization*, *Types for Programs and Proofs*, *AI* and *Concurrent Programming*. In these courses I have used *Haskell*, *Python*, *Erlang*, *C*, *Agda* and *Java*.

Work Experience

Master Thesis *2015 October – current*

The thesis explores different representations of string data in *Erlang*, in the context of Ericsson's SGSN-MME. The SGSN-MME is a massive concurrent Erlang system, running hundred of thousands of Erlang processes. I have examined Erlang and its virtual machine, *BEAM*, in detail. During the thesis I have mainly used Erlang, but also *C*, making changes to the BEAM, that is written in C. I have visited the *OTP* team, the main developers of Erlang, in Stockholm and received feedback on the ideas presented in the thesis.

Software Developer at Ericsson *2010 – 2015*

I worked as a software developer at Ericsson in parallel with my studies at Chalmers. At Ericsson I had the freedom to learn new languages, libraries and tools, which provided me with a lot of coding experience, that I would not have gained by only studying at Chalmers. I mainly developed in *Scala*, *Erlang*, *Python*, *JavaScript* and *C*, learning libraries and tools such as *Git*, *Pandas*, *D3.js*, *Flask*, *Node.js* and *JFreeChart*.

Assistant for a disabled student at Chalmers *2011 – 2015*

Employed by Chalmers to help a disabled student to get to different classrooms between lectures. It taught me to be flexible and improved my social skills.

Assistant at bookstore Antikvariat PAN *2007 – 2014*

I sold books and movie-posters at a bookstore called Antikvariat PAN while studying at Chalmers and working at Ericsson. The job mainly involved interacting with customers, guiding them through book shelves and organize the inventory. I was often alone in the store, which taught me responsibility and to be customer-oriented.

Assistant repairman at Data Assistent *2007 – 2010*

I occasionally helped repairing computers and configure Linux.

Telemarketing for Hörselskadades Riksförbund *2006 – 2007*

Collected donations over telephone. The process taught me to be patient.

Programming Experience

Pit4 prototype *2015 January – 2015 February*

A prototype web-application for log visualization at Ericsson. The motivation behind this application was to solve the problem of rendering interactive graphs with a big amount of data-points in a browser. The application automatically adjusts the level-of-detail without loss of significant data-point nor performance. The backend is based on the *Python* libraries *Flask* and *Pandas*, and the frontend on *D3.js*.

Project managing tool *2014 May – 2014 September*

A web-application for planning and managing projects at Ericsson. It is currently widely used by managers and is currently being maintained by a team at Ericsson. The backend is implemented using *Node.js* and the frontend in *D3.js*.

Issue-ticket monitor *2013 May – 2014 December*

A web-application for Ericsson that visualizes the flow of issue-tickets through the different teams and shows their productivity. The backend is written in *node.js* that communicated with the issue-report system through *Perl*, and generated data for the frontend written in *d3.js*.

TTCN logger for Titan *2012 January – 2012 September*

I helped develop a logger for the Titan system at Ericsson. Titan is a toolset based on the TTCN-3 scripting language, that is used for functional testing of communication systems. The logger was written in *C++*.

Pit3 *2011 January – 2015 May*

I was the main developer of Pit3, a log visualization tool widely used at Ericsson. The application is written in *Scala* and uses *JFreeChart* as its graph library. It is able to concurrently parse a variety of in-house log-formats used by Ericsson, and render data in real-time. The program has some unique features for interactively exploring and working with a big set of time-series data. It has effective solutions to handle the memory consumption of the *JVM*, while at the same time using high-level functional data-structures and rich types in Scala.

Erlang to C *2010 June – 2010 September*

I ported an *Erlang* library to *C* at Ericsson. The goal was to increase the performance, but also to explore the ability to reload *NIFs* (Erlang functions implemented in C) in an Erlang system during run-time.

Examined ETS in Erlang *2010 March – 2011 January*

I explored the memory consumption of data stored in *ETS*-tables at Ericsson. The work resulted in a proposal for improvement to *OTP*, the main developers of *Erlang*. OTP implemented this change, and it is currently a part of the current OTP version.

Hobby Projects

deskel *2016 April – 2016 May*

A multiplexer for Emacs desktops. Inspired by *gnu screen* and *tmux*. I applied *Test-Driven Development* by building a simple test environment that runs tests in an other Emacs instance, and communicates with the main Emacs I am developing in.

`https://github.com/andrejlamov/deskel`

portenv *2016 January – 2016 February*

Portable environment based on Arch Linux. Portenv enables the usage of the package manager *Pacman* on any Linux host, by running a minimal Arch Linux distribution and a fake-root user in the home directory.

`https://github.com/andrejlamov/portenv`

isolol *2015 December – 2016 January*

Fun with isometric perspective and *canvas* in *JavaScript*.

`http://andrejlamov.github.io/isolol/`

Worklog *2015 May – 2015 September*

A prototype web-application for reporting time and assigning tasks. It is designed to be modular and is a real-time multi-user system. It uses *web-sockets* for real-time communication, and has a *REST* API and a *publish-subscribe* system, both reachable through web-sockets and GET and POST-requests.

you-can-call-me-cal *2015 March – 2015 April*

A prototype of a calendar visualization written in *d3.js*. The events in the calendar are packed to take up as little space as possible.

`http://andrejlamov.github.io/you_can_call_me_cal/`

cursed-tetris *2015 January – 2015 February*

Tetris written in *C* using the library *ncurses*.

`https://github.com/andrejlamov/cursed-tetris`

GitStore *2014 July – 2015 August*

A prototype of a version-controlled database based on *git*, using git's *plumbing* commands. It was implemented with *bash* and *node.js*.

Node-in-a-node *2014 June – 2014 July*

A proxy *node.js* server that is able to start other server applications. Node-in-a-node can start a specific version of the application which is passed to the proxy via url. Note that Node-in-a-node can start itself at a given version, hence the name.

mylxpanel *2014 May – 2014 June*

I modified *lxpanel*, the main panel used in the desktop environment *LXDE* written in *C*, and used it with *XMonad*.

`https://github.com/andrejlamov/mylxpanel/commits/taskbar`

puzzle *2014 March – 2014 April* The A-Star algorithm solving the *n*-puzzle problem, visualized with *d3.js*.

`http://andrejlamov.github.io/puzzle/`

TrunkBin *2011 September – 2011 October*

A small *Erlang* program that converts a truncated binary to a term.

`https://github.com/andrejlamov/TrunkBin`

Languages

Fluent in *Swedish*, *English* and *Russian*.