Mikko Lahola, M.Sc.(Tech.)

PERSONAL DETAILS

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WORK EXPERIENCE

Jan 2012 - (ongoing)

Senior Software Engineer at VARIAN MEDICAL SYSTEMS FINLAND

I am developing the Varian Eclipse treatment planning system for cancer radiotherapy. Some of the technologies used: C++, C#, MFC, WPF, OpenGL, SQL Server.
Jun 2015 - May 2019 as a Software Engineer
Jan 2012 - May 2015 as a Software Verification Engineer: I developed tools to support and to scale verification / automated testing processes for Varian's Eclipse product, as well as for other Varian software products. The tools were developed using C#/.NET (using e.g. WCF and ASP.NET) in an international multi-site team. During one project (lasting about 18 months) I was a half of the two-person team that handled the majority of proton therapy treatment planning test automation activities for the project.

May 2011 - Dec 2011

Software Developer at SKYHOOD (now DUUNITORI)

I worked on a search engine / recommendation system for a web service platform for the job market. The programming was done in Python (using Django as the web framework), and C/C++. Scrum practices were utilized in a development team of four people.

Jun 2008 - Dec 2010
May 2007 - Aug 2007

Software Developer at CONFORMIQ SOFTWARE

Conformiq Software produces tools that automate the design of functional tests for software and systems. In particular the company focuses on the computationally-intensive problem of automatically deriving test cases from models of systems under testing.
Jan 2010 - Dec 2010: I worked as one of the software developers in an R&D project that aimed to take the performance of the company's flagship product to a new level. The work consisted of normal software development tasks (design, programming, team communication, quality assurance, working to a schedule) in a team of three developers, the CEO and the occasional input from other R&D members. The work required expertise in the fields of program analysis and search problems. I had to use mathematical problem solving skills daily in the design of algorithms and data structures. The programming was done mainly in C++.
Jun 2008 - Dec 2009 as a Master's Thesis Worker: I did the implementational part of my master's thesis at Conformiq Software. The focus of the work was on testing the applicability of a certain technique in improving the performance of the company's flagship product. The work consisted of several software development tasks and the programming was done mainly in C++. Most of the time spent on the project was my independent work but I also worked on other software components when help was needed.
May 2007 - Aug 2007 as a Trainee: I modeled the behavior of the Session Initiation Protocol and the Real-time Transport Protocol according to protocol specifications. The modeling was done in UML and Java. I also participated in internal quality assurance (testing and bug reporting).

pre 2007

Old positions

January 2005 to December 2006: Course Assistant at Helsinki University of Technology. Group teaching, weekly assignments reviews and exam paper evaluations on engineering mathematics courses (Institute of Mathematics) and data structures and algorithms courses (Laboratory of Software Technology). January to July 2003: Conscription service at Helsinki Air Defence Regiment of The Finnish Defence Forces. I was responsible for building and administering the communication links of a fire command center. Summers 2001 and 2002: I helped the caretaker in miscellaneous gardening duties at Asunto Oy Kannelmäen Pientalot.

Education

2002-2010	**Master of Science in Technology (***with distinction*****)** Aalto University, Espoo, Finland Degree Program: Computer Science and Engineering Major: Theoretical Computer Science Minor: Mathematics Master's Thesis: Flow Analysis Directed Symbolic Execution for Model-Based Test Generation (received the highest possible grade 5 out of 5) (* *with distinction* is awarded to graduates with both the master's thesis grade and the weighted average of other grades at least 4 out of 5 - statistically less than ten percent of graduates get the award)
1999-2002	**Finnish Matriculation Examination** 2nd Teacher Training School of the University of Helsinki

Language Skills

FINNISH:	Native
ENGLISH:	Excellent written and fluent spoken
SWEDISH:	Satisfactory
SPANISH:	Rudimentary

Computer Skills

SOFTWARE DEVELOPMENT:	open source development toolchain: Emacs, GNU Compiler Collection, GNU Debugger, GNU Profiler, Apache Subversion, Git, PostgreSQL Microsoft development toolchain: Visual Studio, MSBuild, TFS Build, Team Foundation Server, SQL Server
PROGRAMMING LANGUAGES:	good knowledge of C/C++, C# and Java, intermediate knowledge of Python and LISP/Scheme, basic knowledge of Powershell, JavaScript, PHP and Basic
OPERATING SYSTEMS:	GNU/Linux, Win7/Win10
MISC. SOFTWARE:	Microsoft Office Word/Excel/Powerpoint/Visio, other similar office applications, Matlab/Mathematica/Maple, basic skills in sound and graphics editing

Professional Interests

On a day-to-day basis, I am interested in acquiring expertise in software development, with a particular focus on mathematical problem solving. The field of search problems interests me in that - by experience - I have found that a single new idea to an approach to a search problem can make a huge difference in performance, which in turn can be the deciding factor of whether some performance-critical system can be used at all. I care about attention to detail and - when building systems - I invest the required effort to keep oversights such as gaps in logic to a minimum. I also value working in a team because I find it both effective (even two viewpoints instead of just one greatly reduces mental blocks) as well as way more fun!

On a more broader scale I feel that the real point - and the only real utility - of new IT systems is to make things (in some way) better for someone or someones. I think I am most pleased to work in an environment where there is a clear sense of providing this kind of service.

Other Interests

For a bit of exercise I favor tennis, badminton, football (soccer) and orienteering. Musically I am interested in electronic sounds and have been producing instrumental electronic music (just as a hobby) for years. I also enjoy cooking with friends.