Lars Bergstrom

Director of Engineering, Mixed Reality at Mozilla

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Summary

I manage virtual and augmented reality at Mozilla Research, where we are working on ensuring that VR and AR are best experienced via the open web platform.

I am based out of Chicago, which is my planned permanent city of residence.

Experience

Director of Engineering, Mixed Reality at Mozilla
December 2017 - Present

Director of the Mixed Reality team at Mozilla. I manage our virtual and augmented reality browser efforts, our social mixed reality team, our mixed reality content creation and discovery teams, and the ops work it all relies on. If it touches virtual or augmented reality at Mozilla, somebody awesome on my team is involved.

Senior Research Engineering Manager at Mozilla
December 2016 - December 2017 (1 year 1 month)

Research Manager of the Mixed Reality team at Mozilla. I manage our virtual and augmented reality browser efforts, our social mixed reality team, and our mixed reality content creation and discovery teams. If it touches virtual or augmented reality at Mozilla, somebody awesome on my team is involved.

I am also a core team member on the Servo parallel web browser engine and manage DevOps across Mozilla Research.

Researcher at Mozilla Corporation
August 2013 - December 2016 (3 years 5 months)

I currently work on the Servo project, and have been both a manager and individual contributor. I managed 4 staff, 2 contractors, and 5 graduate researchers, working on styling, layout, graphics, HTML parsing, parallelism, power usage, session types, testing, and string encoding.

I am on the Servo leadership team, where my focus is on our relationship with Rust, concurrency/parallelism in Servo, integration of Rust into Firefox/Gecko, support for mobile / embedded platforms (primarily ARM Linux and Android), and coordinating research team-wide efforts.

Computer Science PhD Student at University of Chicago
September 2007 - June 2013 (5 years 10 months)

Compiler internals for Manticore, a compiler for a parallel dialect of ML. Implemented several compiler optimizations and did significant work on static analyses.

Built a compiler for a high-level nested data-parallel language (NESL) that targets GPUs (CUDA). It's the first automatic translation from something more complicated than flat data parallelism to GPUs.

Implemented pieces of the Windows-specific portion of the Standard ML basis library in C with ML frontend hooks for Standard ML of New Jersey (SML/NJ) .

Implemented profiling APIs, an MSI-based setup project, and stabilized the Windows implementation of SML/NJ.

Hands-on laboratory sessions for Introduction to Computer Systems (2009, 2010, 2011). Developed and administered exercises to teach the use of development tools to undergraduates.

Senior Software Design Engineer at Microsoft - Developer Tools Platform
March 2006 - September 2007 (1 year 7 months)

Ported all software from the next-generation tools platform project back into Visual Studio.

Merged the Nautilus and Visual Studio Environment teams, handling restructuring and personnel-related issues for the entire development and test organizations (> 100 people).

Prototyping work in C# with WSE on MSBuild multi-process and multi-machine support.

Built up and managed automated checkin and build systems in JScript, Batch, MSBuild, and C#. Authored setup projects in WIX.

Created and maintained Team System project management templates.

Software Design Engineering Lead at Microsoft - Visual Studio Nautilus
October 2002 - March 2006 (3 years 6 months)

Founded team with three other people, leading a team of 10 developers and architects and two test developers building the base of the next generation of development tools at Microsoft. We did work in compilers, data modeling, large application framework, and user interface tooling.

The UI tooling included the new text editor, which shipped first in Microsoft Expression Interactive Designer and ultimately replaced the default Visual Studio editor.

Managed both keeping our dependencies stable and up to date (WPF/Avalon, .NET Framework) and ensuring we met our deliverables to other teams. Involved handling pre-alpha quality software while keeping the team productive and meeting a schedule.

Restructured the division's development process to be an agile software product line, incorporated developer testing in our processes, and fully automated the checkin and build monitoring.

Built and shipped the object model for MSBuild.

Software Design Engineer at Microsoft - Visual Studio Environment
June 2000 - October 2002 (2 years 5 months)

Created and shipped the Visual Studio Academic toolset and Academic SKU of Visual Studio, written in C# using Windows Forms, COM interop to Visual Studio's Automation model, and HTML/JavaScript for start page integration.

Time-bomb, licensing, class view, and object browser features of Visual Studio .NET 7.0, written in C++, mostly using COM. Accessibility support for same UI elements.

Specified and did the first implementation of Emacs bindings for the Visual Studio text editor.

Settings auto-upgrade feature of Visual Studio .NET 2003. C++ Win32 code.

Implemented VSAnsi, a wrapper library that provides hooks for WinNT/Unicode compatibility on Win9x machines.

Developed, rolled out, and supported a new build and release infrastructure to unify all the Developer Division tools division, in use now by over 1200 developers for the .NET Framework, compilers, and all of the Visual Studio environment teams. Written in perl, CMD batch, nmake makefiles, custom build tools, and the entire .NET Framework tool stack. Solved technology issues for how to get reproducible builds, even though we were building many of the tools we needed to use to do the build and how to scale up to the large number of developers worldwide on this code base.

Intern at UBS Investment Bank
June 1999 - September 1999 (4 months)

Changed a porfolio valuation engine from single-machine to run over a set of machines using MSMQ and DCOM.

Education

University of Chicago
Ph.D., Computer Science, 2007 - 2013
University of Washington
MS, Computer Science, 2003 - 2005
Northwestern University
BS, Computer Science, 1996 - 2000