Contact

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Top Skills

Information Retrieval
Recommender Systems
Algorithms

Jeff Dean

Google Senior Fellow at Google, Inc.
Palo Alto

Experience

Google, Inc
Google Senior Fellow
August 1999 - Present (21 years 1 month)

Co-designer and co-implementor of five successive generations of Google's crawling indexing and query retrieval systems for http://www.google.com, covering 100X to 10000X growth in number of documents searched, number of queries handled per second, and frequency of updates to the system.

Co-designer and implementor of the initial version of Google's advertising serving system.

Co-designer and implementor of MapReduce, a system for simplifying the development of large-scale data processing applications on large clusters of machines.

Co-designer and implementor of BigTable, a large-scale semi-structured storage system used underneath approximately 50 Google products.

Designer and developer of the initial version of Google's AdSense for Content product involving both the production serving system as well as work on developing and improving the quality of ad selection algorithms based on the contents of pages.

Co-designer and implementor of many aspects of the production system design for Google Translate, a statistical machine translation system, especially a system that provides distributed high-speed access to very large language models (too large to fit in memory on a single machine).

Implemented many low-level libraries used throughout Google's code base.

Developer of several internal tools for improving productivity in Google's software development environment.

Designed and implemented initial production serving system for Google News.

Co-designer and implementor of Spanner, a large-scale globally distributed storage system used for several important products at Google.

Co-designer and implementor of system for large-scale distributed neural network training. System has been used to make signficant improvements in image understanding, speech recognition and natural language processing applications.

Co-founder and leader of Google's deep learning research and engineering team.

Substantial involvement in Google’s engineering hiring process.

mySimon, Inc
Senior Member of Technical Staff
February 1999 - August 1999 (7 months)

Designer and implementor of a system for retrieving and caching electronic commerce content including a crawler and custom full-text indexing system that allows flexible keyword searching of product information. The system improved the scalability of the company's core comparison shopping technology significantly, increasing the number of simultaneous requests that could be handled by more than a factor of 20.

Designer and co-implementor of a framework for integrating content such as product specifications and product reviews into the company's comparison shopping service.

Co-designer of a tracking system that logs user activity and performs various analyses of user behavior.

Western Research Laboratory, Compaq Computer Corporation
Member of Research Staff
September 1996 - January 1999 (2 years 5 months)

Co-designer and implementor of Digital’s Continuous Profiling Infrastructure, a suite of software tools that provide continuous monitoring and analysis of whole computer systems with very low overhead. The tools attribute cache misses, branch mispredicts, etc. directly to the instructions that caused them.

Inventor of ProfileMe, a new hardware technique for performance monitoring on out-of-order microprocessors that make it possible to accurately identify which instructions are incurring cache misses, branch mispredicts, and other performance debilitating events, with relatively low hardware cost. This technology was included in all new Alpha microprocessors starting with the Alpha 21264A.

Designed new algorithms for information retrieval in the WWW that exploit the connectivity structure of the web graph. Included are new algorithms for finding related web pages and for ranking query results. The algorithms and implementation were transferred to the AltaVista search engine group.

Co-designer and implementor of Swift, an optimizing Java compiler written in Java. At one time, Swift outperformed all reported results on the SpecJVM98 benchmark suite, making it one of the fastest Java implementation in the world.

University of Washington
5 years 1 month

Research Assistant
September 1992 - September 1996 (4 years 1 month)

Invented several new techniques for optimizing object-oriented languages, many of which are now included in commercial C++ and Java compilers.
One of three primary implementors of Vortex, an optimizing compiler for Java, C++, and Cecil.

Teaching Assistant and Instructor
September 1991 - September 1992 (1 year 1 month)

Instructor for Introductory Programming II. Designed curriculum for class of 60 students.

Education

University of Washington
Ph.D, Computer Science · (1996)

University of Washington
M.S, Computer Science · (1993)

University of Minnesota
B.S, Computer Science & Economics