Sitaram Iyer

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Distinguished Software Engineer

Highly motivated engineer with a passion to improve communities and the world through impactful digital innovation. Skilled in assisting users and organizations to tackle mission-critical problems that relate to social impact and justice. Determined to find new framing and approaches to issues, seeing roadblocks as opportunities rather than impediments to success. Extensive experience working on substantial projects that prioritize users' deeper needs.

PROFESSIONAL EXPERIENCE

Software Engineer at Google for almost 20 years: Search Infrastructure and then Social impact and justice.

Google - Social Impact Search features

2014 - 2023

Distinguished Engineer (L9)

Pursued different missions to help underprivileged and marginalized groups through job search, education, financial wellness, and social justice. Navigated stakeholders, policy and legal challenges, and external partners, to create space for the engineers and product managers (2 to 5 directs, and teams of 5 to 15).

Projects:

- **Big Moments** 2020 - 2022
  - Queries like [ukraine war] and [oscars], and other sensitive and/or popular moments such as natural disasters, protests, celebrity deaths, mass shootings, coups, trials, sporting events, etc., that dominate the news cycle globally.
  - **Goal:** Showing relevant and current information and social media discussions on Google, with Search features like "lives affected" from Reuters, Getty Images, in-depth news, key people, human voices, award nominees, podcasts, and how to help (e.g. refugee crisis).
- **Financial Wellness** 2020
  - Queries like [payday loans] (attempted) and [unemployment] (advised)
  - Google blog post from Oct 2021
- **College Search** 2017 - 2019
  - Queries like [ucsc] and [art schools near me]
  - Google blog posts from June 2018 and August 2019
- **Job Search** 2015 - 2017
  - Queries like [jobs near me] and [entry level jobs in finance]
  - Google blog posts from June 2017 and Nov 2017 (with salaries, remote jobs)

Google - Search Infrastructure

2003 - 2014

Member of Technical Staff (L4) to Distinguished Engineer (L9)

In the decade before that, I worked on Search infrastructure projects at Google, like web and knowledge graph indexing, leaning on my systems background relevant to raw systems before the advent of Cloud and AI technologies. I was promoted 5 times during this decade.

Projects:

- **Foundation** 2014 - 2015
  - Attempt to unify structured/unstructured, private/public, crawl/indexing/serving systems
- **Livegraph** 2012 - 2013
  - Incremental composition of the Knowledge Graph
- **Alexandria (aka Caffeine)** 2007 - 2013
  - Incremental indexing system scaled to 1T web pages, averaging 1 min latency
  - Google blog post from June 2010
- **Indexing pipeline** 2005 - 2010
  - Batch indexing pipeline that scaled to 200B web pages with 36 hour latency
- **Index scaling** 2003 - 2005
  - Launched 8B web page index over 3 weeks on the eve of Microsoft's 5B index

Microsoft Research, Cambridge — Summer 2001

Eng Intern

- **Publication:** Squirrel: A decentralized peer-to-peer web cache. Sitaram Iyer, Ant Rowstron, Peter Druschel. Published in the Symposium on the Principles of Distributed Computing (PODC), July 2002, Monterey, CA.

EDUCATION

RIce University, Houston, TX — 2001 - 2003 (graduated in 2005)

Ph.D. in Computer Science

- **Dissertation:** Application-assisted physical memory management
- **Related publication:** Practical, transparent operating system support for superpages. Juan Navarro, Sitaram Iyer, Peter Druschel, Alan Cox. Published in the Symposium on Operating Systems Design and Implementation (OSDI), Dec 2002, Boston, MA.

RIce University, Houston, TX — 1998 - 2001

M.S. in Computer Science

- **Thesis:** Anticipatory disk scheduling
- **Publication:** Anticipatory scheduling: A disk scheduling framework to overcome deceptive idleness in synchronous I/O. Sitaram Iyer, Peter Druschel. Published in the Symposium on Operating Systems Principles (SOSP), Sep 2001, Chateau Lake Louise, Banff, Canada.

Indian Institute of Technology, Bombay — 1994 - 1998

B.Tech. in Computer Science

- **Thesis:** Xority: A measure of separability of training sets for neural network size estimation.
- **Publication:** Xority: A measure of separability of training sets to estimate hidden layer size in neural networks. Sitaram Iyer, Pushpak Bhattacharyya. Published in the Intl. Conference of Knowledge Based Computer Systems (KBCS), Dec 1998, Bombay, India.