

Summary

I am an independent data science consultant and software engineer with extensive experience being part of and leading teams working on search, machine learning, analytics, and infrastructure projects.

Employment history

Independent consultant (2013-current)

Data science and machine learning consultant. Working independently or with an established team, and writing production code or mining offline data, I help companies crack their tough data-related problems.

Selected clients and projects include:

- **Radius Intelligence:** defined and implemented a quality evaluation process for entity matching. Designed, implemented and launched an algorithm improvement to halve recall errors while keeping precision constant. Worked with VP of Engineering and CTO to define and interview for a data science engineer position.
- **Agari:** helped validate feasibility of new line of business by building and evaluating a machine learning model. Bootstrapped a supervised classifier with unsupervised learning to overcome absence of labeled data and data labeling resources.
- **Sojern:** Defined and prototyped a provably fair advertising revenue attribution model. Worked with CTO to design an A/B testing framework.

Senior engineering manager - Groupon (August 2011-September 2012)

Worked with sales, city planning, engineering and data science to build a demand forecasting system. Built an email A/B testing framework and reduced outages due to setup errors from several a day to 0. Significantly increased revenue and user engagement by continuously delivering relevance & UI improvements.

VP of Engineering - VideoGenie (June 2010-August 2011)

Employee #1 at social video marketing startup, reporting to the CEO. Hired and managed a team of backend and frontend engineers. Defined and project-managed product roadmap, and met every crazy deadline. Helped grow client list from 2 to 60+ and pageviews from a handful to several million a day. Worked with Chief Architect to design and implement infrastructure, including fully customizable video recording, internationalization, analytics processing, video search, and smart playlist ranking.

Founder - Broken Chord Media, LLC (July 2009-May 2011)

Launched & sold Harmonious.ly, a Web site to help music teachers and students find and connect to each other. Led every aspect of business definition, product design, architecture, and user testing. Some notable projects: teacher search with search expansion, spelling correction.

Lead software development engineer - Tellme / Microsoft (May 2006-May 2009)

Managed the Search team, which generated about 40% of company revenue. Led architecture, managed and mentored engineers. Worked with Live Search and MSR teams to incorporate Tellme technology into Microsoft Search and voice products. Worked with speech and linguistics teams to dramatically increase automation of voice calls and relevance of text search queries. Led design, development and refinement of business category search. Awarded patent for new spelling correction algorithm. Developed algorithmic performance improvements that quadrupled backend capacity while keeping relevance constant.

Technical lead - Yahoo! (January 2005-May 2006)

Worked on contextual advertising, applying computational linguistics and machine learning techniques to the problem of finding relevant text ads to display on a webpage. Also developed an innovative classification algorithm to detect pages on which it would be inappropriate to display ads.

Education

- **MSc in Computer Science:** University of California, Santa Cruz, June 2004
- **MSc in Mathematics:** University of Illinois at Urbana-Champaign, May 2002
- **BSc in Mathematics, summa cum laude:** American University in Cairo, February 2000

Publications and patents

- Katia Hayati. "Spelling correction based on input device geometry". US Patent 7,865,824, 2011.
- S. Chang, S. Boyce, K. Hayati, I. Alphonso, B. Buntschuh. "Modalities and Demographics in Voice Search: Learnings from Three Case Studies". IEEE International Conference on Acoustics, Speech and Signal Processing, 2008.
- Katia Hayati. "Language Identification on the World Wide Web". UCSC Master's Project, 2004.
- Katia Hayati and Martín Abadi. "Language-Based Enforcement of Privacy Policies". Privacy Enhancing Technologies, 4th International Workshop, PET 2004, Revised Selected Papers, Springer-Verlag (2005), 302-313.