# Jacob Smullyan

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## Skills

**Technical:**   Backend and web programming with Python, C++, Go, Java, Javascript, PostgreSQL, Apache/nginx, Linux, bash, Django, git/mercurial, NoSQL, and a wide range of other tools, languages and buzzwords.

**Human:**   I am equally comfortable and experienced in management, architect and execution roles, and have excellent written and oral communication skills.

## Experience

October 2015 - present: Senior Software Engineer, Google Inc, Social Infrastructure.

I develop a high-performance, low-latency, set-oriented search engine used internally for specialized applications.

October 2013 - September 2015: Software Engineer, Google Inc, Social Infrastructure.

I led data protection efforts for a large in-house storage system for user-centric data and related internal applications.

September 2012 - September 2013: Software Engineer, Google Inc. Google Cloud

I developed the server infrastructure and open-source code generator used to automatically generate client libraries in many programming languages for Google apis and Google Cloud Endpoints.

July 2011 - May 2012: Software Engineer, Google Inc. Google Glass

I developed and tested experimental designs and prototypes for early versions of the Glass hardware and was granted a patent for "enabling a searchable history of real-world experiences."

January 2011 - August 2012: Software Engineer, Google Inc. Google Goggles

On the visual search team at Google, I maintained and contributed a number of features, including a JSON api, user-contributed tags and results, and an HTML interface (blogpost about 1.4 release), and was responsible for the in-house NoSQL database implementation.

February 2002 - December 2010: Senior Developer, New York Public Radio, Interactive Media Department

I headed up the technical team of our digital operations department, leading, overseeing and organizing all aspects of software development, system design and maintenance for the websites of New York Public Radio, which include:

- WNYC
- WQXR
- The Takeaway
- Radiolab
- Studio 360
- On The Media

I wrote the content management system which currently runs these websites, on a Django platform, in 2009/2010; these are deployed on Ubuntu virtual servers with a Postgresql database. (The predecessor to this system, a CMS written for SkunkWeb, was also written by me, in 2002.) The CMS supports a wide feature-set, with many ways of aggregating, featuring, reusing, and syndicating content. It is heavily customized for the business needs of a multi-platform radio station, with special support for audio and video content, real-time playlists, member contributions, scheduling and forward publishing, and interoperates with the organization's radio production and other backend systems in various ways.

2000 - 2001: Senior Engineer, Platform Engineering ("Skunk" Team), Starmedia Network

Wrote SkunkDAV, and extended and rearchitected SkunkWeb, which were both open-sourced when our team disbanded (see Open Source Credits, below).

1999 - 2000: Senior Developer, Scholastic Publications Internet Group

As Senior Developer, responsible for developing various web applications and frameworks in Java, Perl, ASP, and Python.

1998 - 1999: Digital Connection, LLC

As consultant at Citibank, 111 Wall St., GECD Division: Java programming for online global banking system (CitiDirect), responsible for development of global trade applications (both client and server apps), including Citibank's first mobile financial web applications.

# Open Source Credits

Recently I've been a principal maintainer of the Google APIs Client Generator.

Previously, many of my open source projects have involved add-ons for Django.

- djmako, mako templating for django 1.2 and later.
- django-viewutil, utilities for writing django views.
- django-emailthis, an email-to-a-friend app for django.
- django-helptext, a utility for editing help text for the django admin.
- django-crowdsourcing, a survey tool for journalists for the django framework, developed at New York Public Radio with a grant from the Knight Foundation.
- django-smorgasbord, which plugs various template systems into django 1.1.

I've also written the following, which are not django-related:.

- validino, a validation library for Python.
- East-West Audio, a GPL-licensed dynamic mp3 splicing system for podcasters (released 2007), used for years on some of the largest podcasts on the web.
- SmullPeg, a "lamentable peg game", written with Pygame.

Some of my older projects have been mercifully overtaken by history:

- PyDO2, a BSD/GPL-licensed object-relational mapping library for Python (a rewrite of Drew Csillag's PyDO. First released 2006, no longer maintained).
- SkunkWeb, a BSD/GPL-licensed Python web application server (with Drew Csillag. First released 2001; no longer maintained).
- SkunkDAV, a GPL-licensed Java/Swing WebDAV client with embedded programmer's editor (released 2001, no longer maintained).

# Education

Rutgers University, 1987 - 1991, MM/DMA program.

Student of piano (with Marina Young) and composition (with Charles Wuorinen); performed major solo works of Bach, Beethoven, Brahms, Schubert, Schumann, Liszt, Chopin, Skryabin, Ives; contemporary music by Babbitt and Wuorinen. Teaching and Departmental Assistant.

Yale University, BA, 1986.

Senior thesis in African Studies consisted of a rhythmic analysis of West African drumming patterns and original compositions extending and transforming their constructive principles by means of computer algorithms. Studied computer programming in APL with Alan J. Perlis, and piano with Donald Currier, Claude Frank and John Kirkpatrick.