

# PETER FEIN

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I excel at using computers to solve real-world problems. I bridge the divide between technical experts and everyday users. I facilitate communication and help ideas become manifest. I:

## Program Python

- Python guru (12 years): hacking & optimization, testing, debugging, runtime analysis, metaprogramming, Python 3 & PyPy
- deep understanding of HTTP and RESTful architecture: Apache, Ngnix, uWSGI
- storage technologies: SQL, ORMs, SQLAlchemy, MySQL, PostgreSQL, SQLite
- big data & NoSQL: MongoDB, Redis, DynamoDB, Riak, Hadoop, Spark, Solr, Elasticsearch
- web frameworks: Django, Flask, Mezzanine, Celery, Requests, websockets
- devops & deployment: Amazon Web Services (AWS), Ansible, Fabric
- data analysis & visualization: Pandas, Matplotlib, D3.js

## Use Computers

- experienced in systems architecture, debugging & analysis
- clear code organization, problem research and specification
- distributed computing: concurrency, network programming, cloud & cluster, MapReduce
- full text search & machine learning: Bayesian classifiers, document clustering, faceting
- familiar with UNIX / Linux internals, basic cryptography & security
- some HTML & CSS, CoffeeScript & JavaScript

## Write Code

*All projects are open source software and written in Python unless otherwise noted. More on [github](#).*

- [Twiggy](#): a Pythonic logger
- [Measure It](#): time & count metrics for iterators and other code segments
- [PlayerPiano](#): give better presentations using an interactive shell
- [Fakesleep](#): fake calls to sleep() for use in tests
- [Factory](#): object-oriented approach to partial function application (currying)
- [PetaPass](#): a stateless password generator
- [GoldenFleece](#): Python object serialization to JSON
- [Bluesmote](#): analytics for Blue Coat Syria censorship logs
- [MirrorParty](#): censorship circumvention mirror network in pure JavaScript

## Work Hard

### *Principal Developer* **Systema Development November 2010-present**

Freelance software developer focusing on Python, Django, full text search, big data and NoSQL.

- architected & implemented real-time recommendation engine with 5 billion row capacity
- developed and maintained small business websites in Django
- helped startups build prototypes and formulate development timelines
- build high-performance streaming REST server in Flask
- assisted in upgrade of legacy Python/SQL accounting system
- conducted technical interviews, resume and code review for non-technical organization
- mentored students in UNIX & programming fundamentals

### *Sabbatical* **November 2009-November 2010**

After five years of the startup lifestyle, I broke up amicably with Juju.com. I took time to bike, learn to cook, practice yoga, travel, hack on open source software and enjoy life.

### *CTO* **Juju.com 2004-2009**, telecommute

- built job search engine from prototype to >1 million unique users/month
- managed a team of 7 in a virtual office environment, using best practice startup techniques
- oversaw several redesigns and major functionality additions
- made most major architectural decisions, wrote & maintained a large portion of code
- codebase >100K lines, almost entirely in Python
- helped clarify and develop business goals & strategy, designed & implemented technical solutions

### *Analyst/Junior Trader* **Tradelink 2002-2004**, Chicago

- combined knowledge of finance & markets with programming skills
- developed real-time interest rate modeling software in Python, supporting a variety of instruments including cash bonds, swaps and futures.
- used model to price and trade listed derivatives - interest rate futures, swaps & bonds
- helped develop automated high frequency trading platform in C++

### *Clerk* **Proprietary Trading Firms 2001-2002**, Chicago

- floor arb clerk: Chicago Mercantile Exchange / Chicago Board of Options Exchange
- S&P 500 Options, Eurodollar Options, Dairy Futures & Options
- built financial models (Excel) - interest rate, options, other derivatives
- reconciled statements & trades, generated risk and hedging reports

## *Junior Trader/Clerk* **DRW Trading 1999, 2000-2001**, Chicago

- floor arb clerk for largest market maker in Eurodollar options
- junior trader on arbitrage desk
- developed strategies, built pricing/hedging models, executed trades
- broad purview: risk arbitrage (mergers), fixed income, index futures spreads, structural arbitrage, special situations, exotics

## **Talks**

I've been a frequent speaker and invited panelist at conferences, user groups and universities.

- **Programming:** [Pycon](#) 2008 - 2011, [Open Source Bridge](#) 2011 (*keynote*), [SciPy Conference](#) 2011, Chicago Python User Group ([Chipy](#)), NYCPython, Bay Area Python Group, BarCamp, etc.
- **Activism:** [Silicon Valley Human Rights Conference](#) 2011, [ContactCon](#) 2011, [Sheffield Documentary Film Festival](#) 2011, [Air Mozilla](#) 2011, [University for Peace](#) 2011, Yale Law School [Global Censorship Conference](#) 2012, [Personal Democracy Forum](#) 2012, [HOPE](#) 2012, [Internet Archive](#) 2013, [Google Ideas Summit](#) 2013

## **Education**

### **Continuing**

David Beazley's small, intense classes explore advance techniques and the inner workings of Python.

- Python Concurrency Workshop - April 2009
- Python 3 I/O - February 2009
- Jamming with Django - June 2010
- Advanced Python Mastery - August 2010
- Write a Compiler - June 2013

### **University of Chicago 1996-2000**

- B.A. Computer Science
- B.A. Economics

### **Roslyn High School, 1996**

*For a current resume, please visit [peterfein.com/resume](http://peterfein.com/resume)*