

# Pete Fein

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I'm a Python software engineer with 16 years experience in open source development, and a subject matter expert in big data engineering, full text search and distributed systems. I've worked with clients in a range of industries, including trading & finance, medical devices, health care, digital advertising and academia. I've been a featured speaker at the conferences of Google, Mozilla and Pycon.

## Development

I write software in Python:

- Python: testing, optimization, debugging, Python 3 transition, Cython
- big data: PySpark, Spark, Hadoop, Kafka, Pandas
- full text search: Elasticsearch, Solr
- SQL & NoSQL: Redis, MongoDB, Cassandra, PostgreSQL, MySQL
- machine learning: scikit-learn, OpenCV, TensorFlow, Keras
- devops: AWS, Docker, Linux, bash
- web frameworks: Django, Flask, Celery, Nginx, REST, GraphQL

## Consulting

I advise clients on hard engineering problems:

- architecture for large-scale projects
- hiring world-class technical teams
- development best practices
- testing frameworks & tools
- problem research and roadmap development

## Open Source

All projects are written in Python, and available on [github](https://github.com):

- [Twiggy](#): a Pythonic logger, included in several major Linux distributions
- [Measure It](#): powerful instrumentation & metrics
- [PlayerPiano](#): give better presentations using an interactive shell
- [Fakesleep](#): faster tests with less sleep
- [Factory](#): object-oriented partial function application (currying)

## Experience

### *Principal* [Systema Development](#) November 2010-present

Freelance software engineer and subject matter expert focusing on Python, big data, Django and full text search. Currently Technical Director for the [Open Syllabus Project](#) at Columbia University, the first large-scale online database of university course syllabi. Developed and maintained websites in Django; helped startups build prototypes; built web crawlers & data ingest pipelines, etc..

### *Sabbatical* November 2009-November 2010

After five years of the startup lifestyle, I broke up amicably with Juju.com. I've 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 day 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
- got yelled at by traders, yelled back

## 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

## Speaking

I've been a frequent speaker and invited panelist at conferences, user groups and universities, including six times at the national Python conference:

- Python: [Pycon](#) 2008 - 2015, [Open Source Bridge](#) 2011 (*keynote*), [SciPy Conference](#) 2011, [Mozilla](#) 2011, Chicago Python User Group ([Chipy](#)), NYCPython, Bay Area Python Group, etc.
- Activism: [Silicon Valley Human Rights Conference](#) 2011, [ContactCon](#) 2011, [Sheffield Documentary Film Festival](#) 2011, [University for Peace](#) 2011, [Yale Law School](#) 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
- Structure and Interpretation of Computer Programs - September 2017

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

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

## **Roslyn High School, 1996**

*For a current resume, please visit <https://wearpants.org/resume/>*