Pete Fein

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I'm a Python software engineer with 17 years experience in open source development, and a subject matter expert in big data engineering and distributed systems architecture. 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, and the organizer of Python meetups in Pittsburgh and Chicago.

Development

I write software in Python:
  - Python: testing, optimization, debugging, Python 3 transition, Cython
  - big data: PySpark, Spark, Hadoop, Pandas
  - full text search: Elasticsearch, Solr
  - SQL & NoSQL: Redis, MongoDB, Cassandra, PostgreSQL, MySQL
  - devops: AWS, GCP, 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
  - software development best practices
  - testing frameworks & tools
  - discovery and roadmap development

Open Source

All projects are written in Python, and available on github:
  - Twiggy: a Pythonic logger, included in several major Linux distributions
  - Instrument: powerful instrumentation & metrics
  - PlayerPiano: give better presentations using an interactive shell
  - Fakesleep: faster tests with less sleep
  - Factory: object-oriented partial function application (currying)
  - Organizer of Pittsburgh Python Meetup

Experience

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

Independent 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 ETL pipelines & web crawlers, etc..

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 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/