

Peter Hurford

4310 N. Clarendon Ave
#1022
Chicago IL 60613

312.218.8682
peter@peterhurford.com
www.peterhurford.com
github.com/peterhurford

PROGRAMMING SKILLS

- **Advanced:** Python (Pandas / Numpy / Scipy), R (Dplyr / data.table), Ruby/Rails, SQL (Postgres / MySQL), Spark / Hive / HDFS, Bash / Awk / Sed, AWS (EC2 / EBS / EMR / S3)
- **Intermediate:** JavaScript (Coffee / Ajax / jQuery / Node / Angular / MEAN stack), Heroku, Vowpal Wabbit, Haskell, HTML5/CSS, SPSS, STATA, Looker

EXPERIENCE

Sr. Data Scientist, Rise Interactive

July 2016 - Present

- Planned product strategy and delivery for a direct mail model featuring both audience selection and personalization in conjunction with multiple directors, VPs, and the CEO. This model boosted ROI by **5x** for one of our clients using a combination of RFM and collaborative filtering models.
- Used a combination of collaborative filtering and logistic regression, drove a **7x** improvement in ROI for one of our clients in a display campaign.
- Refactored our PySpark codebase increasing the average speed of our recommendation engine from **23hrs** to **4hrs** (~**6x** improvement). Drove recommendation speeds down further to **20min** (~**70x** total improvement) by refactoring the stack to use Kafka, Cassandra, and Vowpal Wabbit. Further scaled speed of stack by building a cluster using EMR.

Sr. Data Engineer, Team Lead, AvantCredit

June 2014 - July 2016

- Progressed through the ranks, starting as a software engineering intern working in Ruby/Rails and working my way up to **managing a team of four other data engineers** by December 2015, building our in-house and open source R infrastructure for building and deploying models quickly and accurately. **Worked with my team, implementing an Agile project management system, owning good conversations about who to hire and difficult conversations about who to fire.**
- **Worked on the front-end and back-end of our customer-facing website**, building logic for automating customer coupons and incentives, saving hundreds of hours of time spent by customer service representatives.
- **Increased the speed of our modeling workflow** through writing a Ruby/Sinatra microservice to write SQL queries that are instantly production-ready and available in predictive models.
- **Created automated systems to detect and resolve data integrity errors**, interfacing both Ruby and R, saving hours of work each week and catching errors that would have been critical if not noticed early.

OTHER SELECTED PROJECTS

Vowpal Platypus

https://github.com/peterhurford/vowpal_platypus

- Vowpal Platypus (VP) is a general use, lightweight Python wrapper that interfaces with Vowpal Wabbit, an online learning ML system.
- Used in production at Rise Interactive to achieve **5-7x ROI** across different campaigns, implementing many model types (linear regression, logistic regression, collaborative filtering, neural nets, LDA, etc.), scaling to hundreds of cores, hundreds of GB of data, with sub-microsecond prediction times.

Checkr

<https://github.com/peterhurford/checkr>

- An R package that implements precondition and postcondition verification and property-based testing (quickcheck) in R.

EDUCATION

Denison University

Bachelor's Degrees in Political Science, Psychology, and Organizational Studies -- 2010-2014

Thesis: Participation and Optimism in the Political Context: How Optimism Both Helps and Hinders Political Participation