# Colin Carroll

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## Experience

- **Kensho** — Cambridge, MA
  **Software Engineer** — *August 2015 – Present*
  - Built system to read and classify breaking news
    * Annotated and bucketed news with high accuracy using topic modeling, named entity recognizers, and linear classifiers
    * Increased efficiency of researchers analyzing articles for economic significance
  - Created, populated, and maintained global event database and knowledge graph
    * Parsed unstructured text to construct a graph model of world events and entities
    * Graph used to study connections between entities involved in current events
  - Implemented search over structured and unstructured documents
    * Built and managed an elasticsearch cluster, augmented with natural language processing
    * Became primary way for users to navigate site

- **Spiceworks** — Austin, TX
  **Senior Analytics Developer** — *May 2012 – June 2015*
  - In charge of machine learning and optimization on the ad operations team
  - Designed and implemented system for optimizing our delivery of display ads
    * Increased clickthrough rates by over 10%
    * Increased delivery efficiency, eliminating about 10% of wasted inventory
  - Worked with email teams on optimizing which emails to send, when, and to whom
    * Created a more agile data pipeline by designing and implementing a Hadoop cluster
    * Implemented a system to put together targeted email campaigns without spamming individual users by modelling their expected responses
    * Forecast revenue growth from this email product and drove business decisions around the product by blending this model with data on new users

## Open Source

- **PyMC3**
  **Contributor**
  - PyMC3 is a popular Python framework for building Bayesian models and performing inference on them
  - Helped with first stable release, did major work on Hamiltonian (gradient based) methods, and on improving the test suite

## Skills

**Daily.** Python, R, SQL

**Weekly.** Javascript, Go, Julia

**Interests and curiosity.** Scala, C++, MATLAB, LaTeX

## Education

- **Rice University** — Houston, TX
  **MA, Ph.D. in Mathematics** — *Aug. 2007 – May 2012*
  - Research Interests: Geometric Measure Theory, Partial Differential Equations, Image Processing

- **Williams College** — Williamstown, MA
  **BA in Economics and Mathematics (with honors)** — *Aug. 2003 – May 2007*

## Other

- Avid runner: Captain of Williams College cross country team; top American in 2009 Houston Marathon, 11th in 2014 Austin Marathon, 2nd in 2016 Napa Valley Marathon
- Launched a stuffed dinosaur part of the way to space.