

# Alex Coventry

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## Skills

### **Machine Learning, Statistical Inference.**

Deep Learning (see “Other Experience”), Bayesian statistics

### **Software Development.**

- C++, python, clojure, scala, sklearn, tensorflow, theano, torch
- GPU kernels (cryptocurrency context), AWS, docker, linux
- Team-based development (git, pull-requests, design and code review)

### **Teaching and Leadership.**

Math, software development, machine learning

## Employment

### 2017 **Independent Tutoring and Consulting.**

- Taught ML and Software Development
- ML system for computer intrusion detection

### 2016 **“Inference Engineer”, *Empirical Systems*.**

Commercializing BayesDB Statistical Database for Business Intelligence

- C++ re-implementation of BayesDB inference engine
- Sales and client consulting
- Teaching Bayesian statistics and inference

### 2014-2015 **Independent Tutoring and Consulting.**

- Taught ML, Bayesian Stats, software dev, Buddhist meditation
- ML system for financial trading

### 2014 **Full-stack Software Developer, *Zenbox*.**

Business Intelligence/CRM Application unifying Salesforce and Email

- Front- and backend for Zensight, a Salesforce management tool
- Natural-language analysis of email for Zensight dashboard

### 2012-2014 **Tutoring.**

Taught python, Math

2008-2012 **Postdoc**, *Cornell*.

Statistical Genetics. Adviser: Andy Clark

- Bayesian inference from rare genetic variants in sequence data
- Inferred European population growth from rare variants
- Searched for rare variants causing cardiovascular disease

2006 **Postdoc**, *Janelia Farm*.

Detection of conserved protein structure. Adviser: Sean Eddy

- Bayesian inference of residue transitions at protein sites
- New phylogeny-aware model of protein selection pressures

2004 **Postdoc**, *Wash U. in St Louis*.

Search for active RNA molecules in *C. elegans*. Adviser: Sean Eddy

2003 **Postdoc**, *MIT*.

Detection of evolutionarily conserved RNA secondary structure. Adviser: Bonnie Berger

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## Other experience

2016-17 **Machine Learning Reading Group**.

Weekly discussion of Goodfellow *et al.*'s *Deep Learning*, and related journal papers & implementations, some advertised at [bit.ly/2nPi7cw](https://bit.ly/2nPi7cw)

2015 **Organizing for Bernie Sanders in Ohio**.

2014-2015 **BURST cryptocurrency**.

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## Education

2003 **Ph.D.**, *MIT*, Mathematics, Statistics.

Detection of evolutionarily conserved secondary structure in RNA molecules. Adviser: Bonnie Berger

1995 **B.Sc.(Hons)**, *Australian National University*.

Geometric Measure Theory, Statistics