Evan Casey

Artificial intelligence researcher
New York, NY

ev@ancasey.com
http://ev.ancasey.com

Education

B.A. Mathematics, Economics, minor in Computer Science
Claremont McKenna College 2010–2014

- Selected coursework: Machine Learning, Real Analysis, Complex Analysis, Probability Theory, Statistical Inference, Differential Equations, Discrete Mathematics, Data Structures & Algorithms

Experience

Software Engineer (part-time) – Narrative I/O July 2016 - present

- Architected and implemented the ETL pipeline that fuels all Redshift-sourced analytics over heterogeneous location and impression data generated from Narrative's real-time data exchange.
- Tech used: Spark, Redshift, Parquet, AWS.

Sabbatical – Recurse Center March 2016 - June 2016

- Self-directed research in machine learning, neural networks, and reinforcement learning.

Software Engineer – Tapad (acquired by Telenor in Feb. 2016) May 2014 - March 2016

- Developed and maintained components of the petabyte-scale data infrastructure powering Tapad's real-time ad bidding systems and the Device Graph, a graph based representation of device ownership that uses a probabilistic model to infer the relationship between devices.
- Architected and implemented an end-to-end ad inventory forecasting system that summarizes billions of events daily using Elasticsearch. Achieved vastly superior results over the previous system in terms of both accuracy and speed.
- Configured and benchmarked several cutting-edge, large-scale analytic data stores (Spark-sql, Impala, Druid) as part of project to improve access to unstructured data stored in HDFS.
- Tech used: Scala, Spark/Hadoop, Kafka, Zookeeper

Software Engineering Intern – One Kings Lane Summer 2013

- Built a product recommendation service based on multi-armed bandits and contributed to Babar, an A/B testing framework using Ruby on Rails.

Achievements

Outstanding thesis award – Mathematics and Computer Science 2014

HackNY Fellowship – Summer internship program 2014

Finalist – Greylock Hackfest 2013

Janet Myhre & Leon Hollerman Scholarship 2010 - 2014

Talks

Deep Reinforcement Learning with Policy Optimization – New York Times Research 2016

Introduction to Neural Networks with Tensorflow – Recurse Center workshop 2016

Scalable Machine Learning with Apache Spark – HackNY masters series 2015

Publications

UNDERGRADUATE THESIS

Scalable Collaborative Filtering Recommendation Algorithms on Apache Spark 2014
Evan Casey, Deanna Needell

Software

1. `demeter`: A library for scalable deep reinforcement learning in Tensorflow. 2016
   - Core capabalities include robust, extensible implementations of REINFORCE, GAE, TRPO, and A3C and utilities to deploy these algorithms on OpenAI Gym and Universe.
2. `scala-nn`: A lightweight neural network framework in Scala 2016
   - Core capabilities include a DSL-like interface for creating networks of arbitrary size/architecture and an optimization library for backpropagation-style weight updates.
3. `bandit-http-server`: A redis-backed HTTP server for multi-armed bandit algorithms 2013

Teaching

1. Teaching Assistant | Claremont McKenna College 2012
   MATH 152: Statistical Inference

Relevant Skills

Programming Languages

- Scala, Python, SQL, Javascript

Systems and Tools

- Tensorflow, Spark, Hadoop, Kafka, Elasticsearch, Docker

Other

I organize Data Science Fridays, a machine learning reading group that meets weekly at the Recurse Center. In my free time, I like to skateboard and take photographs. In high school, I raised $875,000 in grant money for a skate park in my hometown and once lived in Mongolia for 3 months.