Alex Paino

Machine Learning Engineer

San Francisco, CA

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Experience

Sift Science — *San Francisco, CA*

Software Engineer - Machine Learning Team — *August 2014 - PRESENT*

- Working as a full-stack ML engineer doing everything from data collection through model training, tuning, and deployment.
- Developed an in-house random forest model that led to an 18% reduction in fraud detection error. (`http://bit.ly/2gy1PUT`)
- Led a several-person project that introduced new Content and Promotion abuse prevention products. (`http://bit.ly/2gSkl8A`)
- Designed a feature extraction framework capable of constructing and orchestrating a DAG of computaiton in a highly parallel fashion.
- **Technologies used**: MapReduce, Spark, Java, Python, Jupyter, HBase, HDFS

Facebook — *Menlo Park, CA*

Software Engineer Intern — *May 2013 - August 2013*

- Worked on the Ads Pacing team to prototype and deploy new pacing algorithms that led to significant increases in ROI for Ads customers.
- **Technologies used**: C++, Hack, Thrift, Hive, Presto

Microsoft — *Redmond, WA*

Software Development Engineer in Test Intern — *May 2012 - August 2012*

- Worked in the Windows International Testing group on a variety of projects aimed at improving the effectiveness of the group's automated tests.
- **Technologies used**: C#, .NET

University of Missouri — *Columbia, MO*

Undergraduate Research Assistant — *January 2011 - May 2015*

- Worked in Computational Intelligence Research Lab on an explosive hazard detection project (see Publications below).
- Researched various ways of applying Evolutionary Computation, including Genetic Programming and Genetic Algorithms, to image recognition.

The Genome Institute at the Washington University School of Medicine — *St. Louis, MO*

Software Engineering Intern — *May 2011 - July 2011*

- Developed Android application that assists lab technicians when sequencing DNA.

Education

University of Missouri — *Columbia, Missouri*

B.S. in Computer Engineering, B.S. in Math, Minor in Computer Science — *2010-2014*

- GPA: 3.9/4.0

Selected Articles and Publications

ML Experiments at Sift Science, Part 1: Minimizing Bias — *Sift Science Blog*

Alex Paino — *December 2016*

- The first in a three-part series on ML experimentation at Sift Science, this post details how we minimize bias in offline experiments (`http://bit.ly/2gOdA7o`)

Large Scale Decision Forests: Lessons Learned — *Sift Science Blog*

Alex Paino — *August 2015*

- A write-up of 7 lessons learned during our project to implement and deploy an in-house random forest model (`http://bit.ly/2gy1PUT`)

A method of evolving novel feature extraction algorithms for detecting buried objects in FLIR imagery using genetic programming — *SPIE 2014*

Alex Paino; James M. Keller; Mihail Popescu; Kevin Stone — *May 2014*

- Used genetic programming to evolve computer vision feature descriptors similar to HOG and LBP (`http://bit.ly/2gmm7hf`)

Using evolutionary computation to optimize an SVM used in detecting buried objects in FLIR imagery — *SPIE 2013*

Alex Paino; Mihail Popescu; Kevin Stone; James M. Keller — *May 2013*

- Applied genetic algorithms to the task of hyperparameter selection for a multi-stage image recognition system (`http://bit.ly/2fXOIYU`)

Projects

Deep Text Correcter — *October 2016 - Present*

- Using sequence-to-sequence models to automatically correct simple errors in conversational written English.
- Project already significantly outperforms an identity function baseline (`https://github.com/atpaino/deep-text-corrector`)