

Aaron Gonzales

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about

Computer science graduate student with strong analytical skills and extensive research experience seeking a data science position after May 2016 graduation.

education

Master of Science, Computer Science

The University of New Mexico

Concentrating in data mining and machine learning.

2014–2016 (expected)

3.8 cumulative GPA

Bachelor of Science, Psychology

The University of New Mexico

Concentrated in neuroscience with a minor in computer science.

2010

selected research/work experience

Data Scientist Intern, TripAdvisor

Greater Boston Area, MA

Summer 2015

summary:

Data scientist with the Vacation Rentals team under George Bezerra, PhD. 1) Developed a novel ranking system for 720,000+ rental properties and 2) used gradient-boosting machines to predict how well new properties will perform using the learned ranking system.

- Models were developed on approximately 5 terabytes of web traffic history using Hadoop, Hive, Python, and scikit-learn
- Models were built to scale with millions of daily visitors and able to account for a 90-day sliding historical window to capture recent trends in visitor behavior
- Feature generation for part 2 included computer-vision techniques, sentiment analysis, and more.
- A/B testing showed my model improved a revenue metric (revenue per visitor) by 2.36% and conversion rates by approximately 1%
- Worked with engineering teams to create long-term architectural solutions to better support and integrate data science solutions with engineering constraints
- Provided assistance to a SEM problem using Word2Vec to generate features for a regression task.

Research Assistant, The University of New Mexico

Albuquerque, NM

2015–current

summary:

Research assistant for Dorian Arnold, PhD, in the Scalable Systems Lab applying data mining techniques to predict system faults and refine resource management in high-performance computing systems. Partnering with Los Alamos National Laboratory and the Center for Advanced Research Computing.

Analyst/Programmer, The University of New Mexico

Albuquerque, NM

2011–2014

summary:

Lead analyst in a neuroscience research lab run by Elaine Bearer, MD—PhD, managing various research projects and lab members.

notable accomplishments:

- Streamlined lab data processing and analytical techniques, resulting in a 100x (3 hours manually → 30 seconds) reduction on time spent in critical image preprocessing steps and numerous batch processing steps for other tasks
- Major contribution to landing a 2.7 million dollar NIH R01 grant to study the etiology of post traumatic stress disorder via neuroimaging and genetics using transgenic mouse models

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- Authorship on 10 total conference posters, conference presentations, and journal articles
 - Trained and mentored 10 undergraduate and postbaccalaureate student employees and volunteers

computer skills

programming languages, notable libraries, and tools

Java, R (caret, ggplot2, plyr), Python (scikit-learn, gensim, matplotlib, pandas, statsmodels, Cython, sqlalchemy), linux shell scripting, \LaTeX , git, svn, MongoDB, Hadoop, Hive, SQL (Postgres, MSSQL). Some experience with Javascript, HTML, CSS, D3.js, C/C++, and Matlab.

software packages and operating systems

Linux (Ubuntu/CentOS), Microsoft Windows, Apple OS X, VirtualBox, Amazon Web Services (ec2, s3, Redshift), Adobe Illustrator, Adobe InDesign, Adobe Photoshop, Amira, ImageJ, MIPAV, SPM8, FSL, NiftyReg, and MetaMorph.

selected publications

articles in peer-reviewed journals

Quantitative measurements and modeling of cargo–motor interactions during fast transport in the living axon

Pamela E Seamster, Michael Loewenberg, Jennifer Pascal, Arnaud Chauviere, **Aaron Gonzales**, Vittorio Cristini, Elaine L Bearer

Physical Biology 9.5 (2012) p. 055005. 2012

conference proceedings

Unbiased comprehensive analysis of neural activity in response to fear with in vivo MR imaging of animal models of PTSD

A. Gonzales, A. Delora, R. E. Jacobs, E. L. Bearer

2014 Neuroscience Meeting Planner, 2014, Washington, DC

Aging deficits in axonal transport are exacerbated by abeta plaques: An MEMRI study

A. Gonzales, J. J. Gallagher, X. Zhang, R. E. Jacobs, E. L. Bearer

2013 Neuroscience Meeting Planner, 2013, San Diego, CA USA

Live imaging of mesolimbic circuitry and activity in transgenic mouse models of post-traumatic stress by manganese-enhanced mri

A. Gonzales, J. J. Gallagher, X. Zhang, R. E. Jacobs, E. L. Bearer

2012 Neuroscience Meeting Planner, 2012, New Orleans, LA USA

manuscripts in preparation

Stripping rodent brain images by automation: Empowering rodent models for investigation by magnetic resonance imaging

Adam Delora*, **Aaron Gonzales***, Russell E Jacobs, Elaine L Bearer

* - these authors contributed equally, 2015, submitted

In-vivo Imaging of fear pathways in mice: an MEMRI method

Aaron Gonzales, Adam Delora, Xiaowei Zhang, Russell E Jacobs, Elaine L Bearer

2015

The RESTORE Registry: The Initial United States Experience with Lower Extremity Revascularization on Real World Patients with the Supera Stent

Miguel Montero-Baker, **Aaron Gonzales**, Gregory Ziomek, Luis R Leon Jr, Joseph L Mills, John P Pacanowski Jr

2014, submitted

other interests/accolades

Olympic Weightlifting

- 2014 New Mexico Games: Gold Medalist, 94kg class
- 2013 New Mexico Games: Silver Medalist, 85kg class
- 2013 Barnholth Memorial Invitational: Silver Medalist, 85kg class