Aaron Gonzales

{agonzales@cs.unm.edu, 505.385.9209, aarongonzales.net}

in,

Selected Experience

Data Scientist, TripAdvisor — July 2016–Current

Greater Boston Area, MA

Data scientist on the Vacation Rentals team. I focus on building scalable machine-learning models with large volumes of unstructured image and text data to drive both product innovation and traveler interest on our platform.

Data Scientist Intern, TripAdvisor — Summer 2015

Greater Boston Area, MA

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

Notable accomplishments:

- The model was built with approximately 5 terabytes of web traffic history using Hive, Python, pandas, and scikit-learn
- The model scales with millions of daily visitors and self-tunes to fluctuations in visitor usage patterns
- A/B testing showed that the model **increased a key visitor conversion rate by 3.46%** and **decreased visitor bounce rate by 0.46%**
- A/B testing showed that integrating the model helped **increase revenue per visitor by 9.57%**
- The model is now in production across all of TripAdvisor Vacation Rentals' sites

Research Assistant, The University of New Mexico — 2015–2016

Albuquerque, NM

Research assistant for Dorian Arnold, PhD, in the Scalable Systems Lab. We partnered with both Los Alamos National Laboratory and the Center for Advanced Research Computing to investigate applying data science techniques to understand complex high-performance system behavior.

Analyst/Programmer, The University of New Mexico — 2011–2014

Albuquerque, NM

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, including a method that speed up a critical data processing step by approximately 360x (3 hours to 30 seconds). Implemented numerous other batch data processing steps for other tasks.
- Designed and conducted a pilot study that helped win a $2.7 million dollar NIH R01 grant to study the etiology of post traumatic stress disorder.
- Lead author on five research papers (one submitted, four nearing submission), three conference abstracts and presentations, coauthor on many more submitted and pending papers and abstracts
- Trained and mentored 10 undergraduate and post-baccalaureate student employees and volunteers

Education

Master of Science, Computer Science — 2016

The University of New Mexico — *3.7 cumulative GPA*

Concentration in data mining and machine learning.

Bachelor of Science, Psychology — 2010

The University of New Mexico

Concentration in neuroscience; minored in computer science.

Technical Skills

Programming languages, notable libraries, and tools

R, Python (scikit-learn, gensim, Matplotlib, Pandas, Statsmodels, Cython, Sqlalchemy, Keras), Spark, C, Bash, LaTeX, git, svn, MongoDB, Hadoop, Hive, SQL (Postgres, MSSQL). Some experience with Scala, Java, Javascript, HTML, CSS, Matlab, and Amazon Web Services (EC2, S3, Redshift).

Machine Learning / Data Science Methods

Deep learning, supervised learning (random forests, gradient boosting, regression, SVMs), unsupervised learning (autoencoders, DBSCAN, k-means/mediods, EM), unstructured data, web scraping outlier analysis, novelty detection, time-series mining, dimensionality reduction, and feature selection.

Visualization and Miscellaneous tools

Bokeh, Matplotlib, ggplot, shiny, and d3.js.

Publications

Articles In Peer-Reviewed Journals

A simple, rapid process for semi-automated brain extraction from magnetic resonance images of the whole mouse head
Adam Delora*, **Aaron Gonzales***, Christopher S Medina, Adam Mitchell, Abdul Faheem Mohed, Russell E Jacobs, Elaine L Bearer
Journal of Neuroscience Methods *(2015). * - these authors contributed equally*

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*

Selected Conference Proceedings

A Principled Approach to HPC Monitoring
A. Gonzales, Michael Mason, Prabhu Khasla, Abdullah Mueen, Dorian Arnold
4th Workshop on Extreme-Scale Programming Tools at Supercomputing 2015, Austin, Texas

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

Other Interests and 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