aarongonzales

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Stellar Science Corporate Headquarters
6565 Americas Parkway NE
Suite 925
Albuquerque, NM 87110

Dear Hiring Manager,

My name is Aaron Gonzales and I am interested in working with Stellar Science as a Software Development Toolsmith. I graduated from the University of New Mexico in 2010 with a BS in Psychology, minoring in Computer Science, and start my MS in Computer Science this fall here at UNM. I have spent the last several years primarily processing and analyzing 3D image sets using a motley assortment of tools, custom-built code in R or MATLAB, scripts in Python or Bash, or implementation of automated pipelines using common neuroimaging analysis toolkits. I have focused on creating tools that other people in my lab may use to automate or ease their research and have developed a penchant for effective data visualization techniques, reproducible research, and statistical programming as well. I will be focusing my Master's work on scientific and other large-scale computing problems - algorithm development, optimization, modeling, etc.

I would love to meet with you face-to-face to discuss any potential mutually beneficial arrangements. I believe my eclectic background and course of study will be of interest and benefit to your team and look forward to meeting with you.

Sincerely,
Aaron Gonzales

aarongonzales

curriculum vitae

contact

505.750.2214
11104 Apache NE
Albuquerque, NM
87112

agonzales@cs.unm.edu

LinkedIn

programming at a glance

Java, Python, R, C, Bash

about

I begin work on my MS in Computer Science this fall and seek intellectually demanding work creating tools to solve challenging, emergent problems in our world.

research/work experience

2011–Current **University of New Mexico, Albuquerque, NM —Supervisor: Elaine Bearer, MD–PhD**
Analyst/Programmer
Senior analyst in a neuroscience research lab in the School of Medicine working on and managing various projects.
primary duties:
Analyzing scientific data, primarily manganese-enhanced magnetic resonance imaging (MEMRI) data taken from transgenic mice, vesicular cargo transport in axons, DNA methylation, and histological microscopy. Analysis methods included statistical parametric mapping, extensions of the general linear model, data visualization, and modeling. Writing programs and scripts to automate or facilitate analysis that can be used by other lab members for analysis on their projects. Implementing reproducible research methods and documentation.
other duties:
Preparing scientific posters, presentations, and manuscripts, assisting with grant writing, database searching, and study design. Training, instructing, and managing both student employees and volunteers at various levels of training (e.g., early undergraduate, late undergraduate, postbaccalaureate, and graduate).

2010–2011 **The Mind Research Network, Albuquerque, NM —Supervisor: Julia Stephen, PhD**
Research Associate
Worked on a study investigating multi-sensory integration in patients with schizophrenic and healthy normal volunteers.
duties:
Acquiring data by scanning research subjects using both functional magnetic resonance imaging (fMRI) and magnetoencephalography (MEG), writing programs and scripts to automate analysis tasks, participant payment, data analysis.

research internships

2008-2010 **The Mind Research Network, Albuquerque, NM —Supervisor: Pilar Sanjuan, PhD**
Student Volunteer
Assisted with a study investigating substance use disorders and post-traumatic stress disorder (PTSD) in recently returned combat veterans.
duties:
Recruiting, entering data, constructing SPSS databases, scoring measures, analyzing data, editing fMRI and MEG tasks in Presentation; running research participants in fMRI, running participants in the MEG scanner; phone screening participants, some analysis of fMRI image data; tracking and reviewing preprocessing of imaging data.

2008 **University of New Mexico, Albuquerque, NM —Supervisor: Akaysha Tang, PhD**
Student Volunteer
Assisted with a study investigating stress regulation in rats and assisted an expert in troubleshooting and repairing an EEG system for a study investigating stress in humans.
duties:
Collecting, coding, and entering data, gathering literature for a grant proposal, testing and analyzing EEG equipment, contacting equipment vendors, replacing computer components, diagnosing and rebuilding workstations.

consulting work

2014 **Pima Vascular**
Statistical Consultant
Analyzed data from a clincical trial for a novel stent used in vascular surgery. Analysis included data munging, visualization, Cox Proportional Hazard modeling, and reproducible reporting using **R**.

2014 **Fame4good.com**
Social Media Consultant
Tested and analyzed advertisements as they affected goal conversions and website traffic.

education

2016 **Master of Science** in Computer Science — University of New Mexico
Beginning fall 2014

2010 **Bachelor of Science** in Psychology — University of New Mexico
Minor in Computer Science

computer skills

programming languages and tools
MATLAB, Java, **R**, C, Python, bash, Knitr, LaTeX, git

software packages and operating systems
General
Microsoft Office, Linux, Microsoft Windows, Apple OSX
Specialized
Adobe Illustrator, Adobe InDesign, Adobe Photoshop, Amira, ImageJ, MIPAV, SPM8, FSL, NiftyReg, MetaMorph

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

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

Imaging functional anatomy in the brain of mouse models of human disease
Elaine L Bearer, Joseph J Gallagher, **Aaron Gonzales**, Russell E Jacobs
Alzheimer's & dementia : The journal of the Alzheimer's Association, 2013

Measurements and modeling of axonal transport: Amyloid precursor protein wins over negative charge in the race to the synapse
J. Pascal, M. Loewenberg, **A. Gonzales**, V. Adair, EL Bearer
Mol. Biol. Cell, 23,4663, abstract 1984, 2012, New Orleans, LA 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

Imaging functional anatomy in the brain of mouse models of human disease
Elaine L Bearer, Joseph J Gallagher, **Aaron Gonzales**, Russell E Jacobs
FASEB Journal 26, 2012

Auditory and visual integration differences from left temporal cortex in schizophrenia
J. M. Stephen, L. Urrea A. Geeda, L. Romero, **A. Gonzales**, C. J. Aine, J. Bustillo
2010 Neuroscience Meeting Planner, 2010, San Diego, CA USA

Good stress regulator begets good stress regulator: Predicting offspring stress regulation from maternal stress regulation
A. C. Tang, Z. Yang, R. D. Romeo, A. Chen, A. Plakio, D. Delvecchio, V. Nguyen, Y. Zhang, J. Youngblood, **A. Gonzales**, B. S. McEwen
2009 Neuroscience Meeting Planner, 2009

manuscripts in preparation

The RESTORE Registry: The Initial United States Experience with Lower Extremity Revascualarization 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

An automated, template based brain-extraction toolkit for mouse magnetic resonance imaging
Aaron Gonzales, Adam Delora, Russell E Jacobs, Elaine L Bearer
2014

In-vivo Imaging of fear pathways in mice: an MEMRI method
Aaron Gonzales, Adam Delora, Xiaowei Zhang, Russell E Jacobs, Elaine L Bearer
2014

Functional circuitry is perturbed in a mouse model of PTSD
Aaron Gonzales, Adam Delora, Xiowei Zhang, Russell E Jacobs, Elaine L Bearer
2014

Functional circuitry is robust in the presence of heavy Abeta plaque laod
Aaron Gonzales, Adam Delora, Frances Chavez, Xiowei Zhang, Russell E Jacobs, Elaine L Bearer
2014

A large-scale investigation into live fucntional circuitry in murine models of neurological disorders
Aaron Gonzales, Adam Delora, Frances Chavez, Xiowei Zhang, Russell E Jacobs, Elaine L Bearer
2014

relevant coursework

statistics

Advanced Data Analysis I (STAT 527) - Graduate statistics with a focus on practical analysis using **R**. Topics included linear regression, non-parametric statistics, literate programming, and general linear methods.
Advanded Data Analysis II (STAT 528) - Continuation of STAT 527. Topics include cluster analysis, principal component analysis, multivariate methods, logistic and polynomial regression, experimental design, visualization, and efficient code using **R**.

computer science

Computational Linguistics – semester project involved four persons working on a Java-based joke generator querying a substantial SQL database using XML templates with Baysien inference and other machine-learning features to improve quality of the jokes.
Data Organization
Intermediate Programming
Artificial Intelligence (graph searching algorithims, including A^*, Dijkstra).

psychology

Neuroimaging, Research Methods

other

Linear Algebra —Khan Academy; MIT OpenCourseware
Algorithms: Design and Analysis, Part 1 —Stanford University via Coursera

other interests/accolades

personal

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

UNM Mountaineering Club President; 2007-2008