## Linguistics & Neuroscience Researcher

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Hiring Manager U.C. Davis Center for Mind and Brain 267 Cousteau Place Davis, CA 95618 (530) 297-4651

Junior Specialist Cognitive Neuroscience

Dear Hiring Manager,

I am responding to your need for a Junior Specialist in Cognitive Neuroscience at the Center for Mind and Brain. I earned a B.A. in Linguistics and a B.S. in Cognitive Science from U.C.S.C. where I was also involved in conducting multiple phonetic research studies.

My interest in Cognitive Neuroscience stems from a background in clinical diagnostics, comparative medicine, and behavioral research. I strongly believe that interdisciplinary collaborations are one of the primary motivators behind novel insights that lead to effective solutions. I have lead focus groups and workshops in which the diverse backgrounds of the members contributed to the teams reaching their goals.

Research by Dr. Lee Miller on the neural basis of auditory perception and speech recognition as well as the neuroimaging of music evoked memories and emotion within the Jenata Lab are prime examples of the exciting work that motivates my drive for a Ph.D. I have participated in journal clubs where articles were reviewed and results were presented and discussed. My desire for efficiency led me to seek out a system for organizing the articles. I became familiar with annotation software such as Mendeley, Zotero, Colwiz, and Qiqqa. I decided on adding Qiqqa to my workflow. I would be happy to share my journal article annotation software comparison.

I take my organizational tools quite seriously. I make use of enterprise level project management and time management software in order to maintain a handle on coursework, meetings, committees, and the various independent projects that I am involved with. A brief sample of some of the tools that I bring with me are the use of Gantt charts, Kanban boards, and Pomodoro techniques. Of course, things do not always go according to plan. Due to that, I also bring with me contingency plans, patience, and understanding. As well as a bit of humor. How many linguists does it take to fix a lightbulb? Contact me to find out.

Sincerely,

Ruben Alfredo Sanchez

Attached: resume

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"Passion, Innovation, Results"

#### Research

Research interests involve integrating phonetic perception methodologies with brain imaging technologies such as fMRI and MEG in order to investigate neuronal circuitry in multilinguals.

### Education

B.A. Linguistics University of California, Santa Cruz

B.S. Cognitive Science University of California, Santa Cruz

A.S. Physics San Diego Mesa College

A.S. Mathematics San Diego Mesa College

#### Academic Research

Annotator

University of California, Santa Cruz Natural Language & Dialogue Systems Lab

2016 to present

Annotating social media content for computational modeling via language entrainment and narrative summarizations.

Research Assistant

University of California, Santa Cruz Cognitive Science Department

2013 to 2014

Coded acoustic data with Praat and video data with After Effects for a phonological study.

Research Assistant

University of California, Davis Center for Mind & Brain

Internship Summer 2012

For a hippocampus study administered Stanford Binet Intelligence Tests, recruited families, coded data, and assisted with fMRI preparations.

Researcher

University of California, Santa Cruz Linguistics Department

Independent Study Spring 2012

Developed, implemented, and completed a controlled phonological study. Designed and prepared stimuli, scheduled and ran participants, as well as analyzed and reported data.

Comfortably, competently, and cheerfully conducting:

Visit my website to learn more.

Experimental Design Data Visualization **Procedural Training** 

# Study Design

E Prime Praat Python R LaTeX Linux CLI

### Literature Search

Colwiz Mendeley Qiqqa Zotero

## Proficiency

English French Italian Japanese Spanish

## Web Design

HTML5 CSS3 JavaScript

#### **Animation**

After Effects Blender Flash Illustrator

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## **Honors**

2014 Dean's Scholarship, UCSC

## **Teaching Experience**

Tutor / Mentor

Foothill College

2011

Pass The Torch Program Los Altos Hills, CA

Tutored and developed long term collaborations with students while coaching them on productive study habits and critical writing techniques.

Tutor

Foothill College

Outreach Program Los Altos Hills, CA

Immunology La Jolla, CA

2011

When the English department closed the writing lab due to budget cuts, I collaborated with the English as a Second Language Club in order to provide free tutoring services to ESL students. I functioned as the first tutor and helped implement the ESL Club writing assistance outreach program.

Tutor

Independent Los Altos Hills, CA

2010 to 2011

Provided tutoring services to students and adults on academic subjects such as English, French, Algebra, and Calculus.

## **Professional Experience**

Technical Assistant

Pfizer Global Research & Development La Jolla, CA

Jan 2008 to Jun 2009

Performed health observations on a variety of species within the Comparative Medicine Department. Managed and updated the department website.

Animal Technician

The Scripps Research Institute

Feb 2007 to Aug 2007

Examined and monitored health concerns. Learned malocclusion treatments, orbital bleeds, peritoneal injections, intra-cardiac punctures, and tumor measurements.

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# Research Statement

### Introduction

My research interests involve integrating phonetic perception methodologies with brain imaging technologies such as fMRI and MEG in order to investigate neuronal circuitry in multilinguals. Additional technologies useful in investigating the neural basis of auditory perception and language comprehension include EEG, ERP, and eye tracking.

#### Previous Research

#### L1, L2 Decay & Vowel Space

Exploratory study investigating if L1 decays onto L2 to the extent of affecting the vowel space. Bilingual speakers of English and Spanish who self reported as code switchers demonstrated an asymmetrical vowel space merger between L1 and L2.

### Current Research

#### Phonetic Mental Arithmetic

Pilot study investigating if a difference in RT exists when participants are tasked with providing a verbal response to simple arithmetic stimuli presented acoustically in L1 or L2.

#### Future Research

#### Mental Arithmetic

Future imaging studies will identify the neuronal circuits involved in conducting mental arithmetic when presented acoustically in L1 and L2.

### Language Acquisition

Future DTI studies can investigate if subtle white matter differences between learners encoding L2 in a primarily acoustic (verbally rich) environment and in a primarily visual (reading rich) environment exist.

Research Statement 1 of 1 Ruben A. Sanchez