

Education

CARNEGIE MELLON UNIVERSITY

AUGUST 2026

Ph.D. in Cognitive Psychology

Advisor: Jessica Cantlon

UNIVERSITY OF ILLINOIS, URBANA - CHAMPAIGN

DECEMBER 2020

B.S. in Brain and Cognitive Science with Distinction, Minor in Linguistics

Advisors: Simona Buetti, Alejandro Lleras (thesis), Jon Willits (research)

Research Experience

CAOS LAB OF CARNEGIE MELLON UNIVERSITY

AUGUST 2021 – PRESENT

Graduate Student

- ❖ Trained in IACUC and CITI standards for ethical experimentation with humans and non-human primates
- ❖ Employed operant conditioning techniques to reinforce behavior in rhesus macaques
- ❖ Analyzed the performance of non-human primates on matching tasks for comparison with humans
- ❖ Developed applications through R studio to facilitate routine analyses and production of daily logs
- ❖ Maintained electronic hardware and soldered circuitry for Arduino interface

VISION LAB OF THE UNIVERSITY OF ILLINOIS

SEPTEMBER 2018 – MAY 2021

Undergraduate Researcher

- ❖ Independently developed five 2D and two VR experiments to model human attention and visual search in Python and JavaScript
- ❖ Processed data for ongoing experiments to monitor surfacing trends and resolve errors in participant-side task workflow in R and Excel
- ❖ Accepted for poster presentation at Visual Sciences Society Conference 2020
- ❖ Authored and submitted a grant proposal to the UIUC Office of Undergraduate Research, awarded \$1800 and pursued for interviews regarding proposed work
- ❖ Experienced in presenting ongoing findings in weekly lab meetings of graduate students and faculty
- ❖ Trained and coordinated Research Assistants in the administering of experiments to test subjects
- ❖ Recorded necessary media for ongoing projects including 360° video for virtual reality importation
- ❖ Redesigned the Vision Lab website and conserved data during the move to a new site and structure

LEARNING & LANGUAGE LAB OF THE UNIVERSITY OF ILLINOIS

AUGUST 2020 – AUGUST 2021

Software Developer

- ❖ Designed and implemented User Interface in a 3D neural network sandbox powered by Unity
- ❖ Directed team-members in the use of Object-Oriented Programming and optimization in C#
- ❖ Documented preexisting code for Project Humans and ensured consistent maintenance of conventions
- ❖ Worked in a team of four in cooperative writing and merging of branched directories using Git

Projects and Publications

Conti, J., Lleras, A. (writing manuscript) - Project Object; an investigation of distractor-target interactions dependent on similarity between household-object stimuli.

- ❖ Developed Python script to display stimuli based on visual similarity and group representation

- ❖ Programmed experiment in Python to examine the application of Signal Contrast Theory in semantic category differences between target and distractor and effect on response time and accuracy

Conti, J., Buetti, S., Lleras, A. (collecting data). "Evaluating the contribution of visual feature heterogeneity in conjunction search performance"

- ❖ Study accepted for poster presentation at Vision Sciences Society 2020
- ❖ Developed experiments in PsychoPy, which were also transcribed to JavaScript for online studies
- ❖ Conducted data processing and statistical analyses in R

Conti, J., Buetti, S. (collecting data). An evaluation of the benefits of short meditative practice in Virtual Reality environments on mood, stress, and cognitive functions in non-expert mediators

- ❖ Study supported by the Undergraduate Research Support Grant through the University of Illinois
- ❖ Developed experiments in PsychoPy and Unity
- ❖ Developed questionnaires to examine impact on immersion, mindfulness, focus, and stress

Conti, J., Willits, J., Language Learning Lab at UIUC - Project Humans (in development). A tool designed to allow for the testing of neural networks in a more authentic 3D environment

- ❖ Project allows for theories of semantics explored through neural networks to be applied to a virtual environment populated by NPCs humans and resources
- ❖ Used Unity to include more authentic representations of human vision and to easily observe and explore behavioral trends in real time

Teaching Experience

INDEPENDENT TUTOR

SEPTEMBER 2019 – MAY 2021

Basic German, Intermediate Spanish, General Psychology, Composition

- ❖ Guided high-school, graduate, and postgraduate students in keeping pace with sudden online adaptation
- ❖ Priority placed on individual needs by adapting necessary content and internalization through discourse
- ❖ Developed high proficiency in editorial work and discussion of relevant corrections
- ❖ Maintained professional correspondence with a diverse body of clientele

Skills

RESEARCH

Trained in research ethics under the Collaborative Institutional Training Initiative

Cognitive

- ❖ Preparing and debriefing human subjects prior and post-experimentation for cognitive tasks using Ishihara colorblindness test and chinrest equipment
- ❖ Competent in statistical analysis using Excel, NumPy, R, and Pandas
- ❖ Running online studies through Pavlovia and SONA
- ❖ Grant proposal composition and preparation at a university and national level
- ❖ Collaborative code authorship in teams as large as four and delegation of individual tasks

Biological

- ❖ Confident handling of live animal subjects such as rats for behavioral experiments
- ❖ Histology procedure including microtome operation, isolation and staining of tissue samples, and preparation of slides
- ❖ Neurological dissection and identification of anatomical structures

COMPUTATIONAL

- ❖ **Python**, using Anaconda and PyCharm IDEs for statistical analysis and PsychoPy experimentation
- ❖ **C#**, using VSCode for the development of scripts for Unity 3D, used in VR and 2D gameplay
- ❖ **C++**, using Ubuntu and tested through Catch and Valgrind for data structure education
- ❖ **JavaScript**, using WebStorm IDE for online experiments through Pavlovia and JSON for data management
- ❖ **Java**, experienced with the IntelliJ IDE and Android App Development
- ❖ **HTML** web design, for the development of personal and professional websites
- ❖ Other software-oriented skills include Git project management, Microsoft Office, and Adobe Photoshop

SPOKEN LANGUAGES

- ❖ Native Language – English
- ❖ Advanced Italian and Spanish
- ❖ Elementary German

Teaching Experience

DEPARTMENTAL OUTREACH AT CARNEGIE MELLON UNIVERSITY

AUGUST 2021 – PRESENT

- ❖ Collaborated with fellow graduate students of the CMU Psychology Department on educational presentations for middle and high school students in the community
- ❖ Topics of presentation include college preparedness, lifelong growth, and career choices

INDEPENDENT TUTOR

SEPTEMBER 2019 – MAY 2021

Basic German, Intermediate Spanish, General Psychology, Composition

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CLIMBING CLUB AT THE UNIVERSITY OF ILLINOIS

APRIL 2019 - 2020

Philanthropy Chair

- ❖ Collaborated with a team of six to organize three annual fundraisers such as a Reel Rock viewing and raffle for a club of 150 students, allowing for \$2500 to be donated to the Access Fund
- ❖ Coordinator of ecological service projects such as biannual volunteer trail reconstruction of Jackson Falls

Awards

DEAN'S LIST

SPRING 2020

UNDERGRADUATE RESEARCH SUPPORT GRANT - \$1800

FALL 2019