QIANQIAN(LEE) CUI

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Education

New York University, New York, NY — May 2021 (Expected)
M.A. in Psychology
Rutgers University, New Brunswick, NJ — January 2019
B.A. in Psychology, Minor in Economics

Honors and Awards

Graduate Student Research Award, New York University — 2020
24th Annual MA Research Conference Best Poster, First Place Award, New York University — 2020
Dorothy and David Cooper Scholarship, Rutgers University — 2017
Dean's List, Rutgers University — 2015- 2017

Research Experience

Masters Student Research Assistant — September 2019 – Present
New York University, New York, NY
Social Neuroscience Lab (**Advisor: Dr. David M. Amodio**)

Bias in AI Project

- Developed a computational approach examining potential racial bias in facial recognition techniques using Python (with PyTorch)
- Tested a popular convolutional neural network ResNet and fine-tuned the network with multiple public face datasets (unbalanced in terms of race and gender)
- Implemented a Siamese network that aims at comparing similarity of the two faces
- Presented the preliminary findings of potential hypodescent in facial recognition techniques at NYU's 24th Annual Master's Psychology Research Conference and won first place award

Instrumental Reinforcement Learning Project

- Programmed probabilistic selection task examining the general process of value-based decision-making and attitudes formation with JavaScript/HTML/CSS and psiTurk
- Programmed probabilistic selection task testing how people perceive traits in a scarcity condition with JavaScript/HTML/CSS and psiTurk
- Implemented the methodology of reinforcement learning
- Identified and fixed issues such as an ad blocker interfering with psiTurk online experiments
- Annotated comments for the codes in order to make it easier for other lab members to read the scripts

Face Categorization Project

- Designed and programmed a study on perception of racially ambiguous faces
- Generated 200 morphed faces with WebMorph
- Wrote python scripts able to only include the oval shaped facial areas for the 200 faces within 2 minutes

Masters Student Research Assistant — September 2019 - Present
New York University, New York, NY
Motivation Lab (**Advisor: Dr. Gabriele Oettingen & Dr. Peter M. Gollwitze**r)

- Programmed and piloted surveys on belief and motivational processes in interpersonal interactions
- Generated animated images which are used in the Qualtrics surveys

- Fixed issues with Qualtrics having trouble hiding the next bottom while displaying multiple stimuli rapidly
- Coded response and performed content analysis
- Cleaned data with Python

Volunteer Research Assistant February 2019 – August 2019
Nanjing University, Jiangsu, China
Reward, Competition and Social Neuroscience Lab (**Advisor: Dr. Yansong Li**)

- Designed, programmed and ran behavioral and eye-tracking studies examining sex differences in visual erotic stimulus perception
- Assisted with stimulus design and data collection for ERP experiments examining how integration of primary/secondary reward cues influences executive functions
- Conducted experiments using E-Prime and Experiment Builder
- Cleaned and analyzed data in Python and R (~25k trials)
- Translated five questionnaires from English into Chinese
- Attended workshops on R and reinforcement learning
- Aided in building the lab's new minimalist styled website

Undergraduate Research Assistant January 2016 – May 2017
Rutgers University, New Brunswick, NJ
Close Relationships, Identity, and Stigma Lab (**Advisor: Dr. Diana T. Sanchez**)

- Collected data for multiple studies examining fluidity of multiracial identity and attitude change
- Interacted with confederates in front of real participants
- Marked attendance sheet and kept record of unexpected events

Manuscripts

Cui, Q. & Li, Y. (in prep). Eastern Asian Erotic Stimuli Dataset: Sex Differences among Native Heterosexual East Asian Participants Influence Category-Specific Preferences toward Visual Erotic Stimuli from the Opposite Sex

Posters & Presentations

Cui, Q., Berg, J. J., & Amodio, D. M. (2020, April). Hypodescent in Face Recognition Algorithms: Evidence and Effects of Training Dataset Racial Composition. Poster presented at the 24th Annual NYU MA Research Conference, New York, NY.

Cui, Q. (2020, April). An Independent iOS App to Help with the Construction of Habits and Time Management Skills. Poster scheduled to be presented at NYU Graduate School of Arts and Science Threesis Academic Challenge (Qualifying Round), New York, NY. (Cancelled due to covid-19)

Course Project

A Reinforcement Learning Approach for Understanding Grounded Natural Language Processing 2020

- Completed a final group project for the doctoral-level course Computational Cognitive Modeling to explore language generalization and few shot learning in human cognition with a computational approach
- Collaborated with three other classmates with diverse backgrounds in Computer Science, Data Science and Engineering. All team members contributed equal amount of work
- Proposed and programed a novel computational model by creatively combining the Seq2Seq model with a generative adversarial network and policy in reinforcement learning (inspired by the seqGAN model)

- Designed and collected data for an experiment testing language processing in human subjects
- Compared human subjects' results with the performance of our proposed model and wrote the final paper using LaTex

Independent Project

#17, the Habit Tracker 2018 - Present

iOS habit tracker app with an outer-space theme

- Created a fun app which aims to facilitate habit formation. Users will play the role of an astronaut. They are supposed to try their best to get stars as a mental reward after setting up goals and recording time they spend on those goals
- Independently developed graphic design, 3D models and scripts for the app
- Developed a low-poly art style with flat design UIs in order to generate a minimalist appearance
- Created animated 3D models of astronauts and planets with Blender
- Used particle systems in Blender to generate scenes of starry sky
- Completed graphic design with Photoshop
- Wrote Swift scripts which smoothly support UI design, data storage and animation display
- Improved product quality through code reviews and regular unit tests
- Currently working on a new version which will support multiple languages

Other Experience

Part-Time Freelance Illustrator 2018

Self-Employed

- Designed and developed digital graphics and illustrations with Clip Studio Paint and Adobe Photoshop
- Conceptualized and created original pictures from abstract ideas and concepts
- Worked on projects including avatar and icon designs based on clients' need

Relevant Coursework

Undergrad Level:

- Social Psychology, Personality Psychology, Human Sexuality, Quantitative Methods in Psychology, Developmental Psychology, Abnormal Psychology, Cognition, Advanced Topics in Human Cognition

Masters Level:

- Psychology of Social Behavior, Cognitive Neuroscience, Decision Making, Research Methods & Experience, Masters Intermediate Statistics, Scientific Programming in Python & R

Doctoral Level:

- Prejudice and Stereotyping, Person Perception, Computational Cognitive Modeling

Skills

Coding Language: Python, JavaScript, HTML/CSS, Swift
Data Analysis: R, SPSS
Experimental Programs: psiTurk, E-Prime, Experiment Builder, PsychoPy, Qualtrics
Image Processing: Photoshop, Clip Studio Paint, Procreate
3D Modeling: Blender
Other: LaTex