Relationships and Social Cognition Lab Opportunity

Faculty Sponsor: Ozlem Ayduk

Supervisor: Ozge Ugurlu

Contact email: ozge.ugurlu@berkeley.edu

Webpage: https://rascl.berkeley.edu/

POSITION FOR SPRING 2018

Relationship and Social Cognition Lab (RASCL) is looking for computer science students and data analystist who have strong programing and statistic skills to investigate the development of children’s ability to recognize and understand other people’s emotions.

Objectives and goals of the project

The overarching goal of the current research is to better understand why delay of gratification is a powerful predictor of developmental outcomes and what aspects of the family environment function to cultivate this skill. We will measure delay of gratification ability in a sample of 5-to-8-year-old children and will evaluate whether performance on this task relates to an array of child competencies and parent-child dynamics.

Work procedures

New research assistants in the Relationships and Social Cognition Lab (RASCL) will be expected to apply design in programing languages and analyze them.

Research assistant should:

Should have strong programing skills in at least one of the programing languages.
Be motivated to improve their experiment design skills.
Should have strong R skills to analyze data.

Weekly 5-9 hours of dedication.

How to apply:

Email to ozge.ugurlu@berkeley.edu

Deadline: Until the position is filled
Leveraging Cognitive Science to Improve Psychotherapy Effectiveness

Faculty Sponsor: Allison Harvey
Supervisor: Garret Zieve
Main Contact: cara.woodworth@berkeley.edu
Position Available: Spring 2018

Description of Research
Emerging evidence suggests that psychotherapy clients show numerous difficulties learning, remembering, and applying the complex information presented during therapy sessions. Our team is currently conducting a number of studies examining strategies to improve psychotherapy clients’ learning of treatment information. We are in need of research assistants to assist with the coding of participants’ responses for these studies!

Description of Student Responsibilities
This position involves learning and applying a detailed coding method to participants' free responses. There will be regular in person meetings, but most of the work is remote. Applicants should have a GPA of 3.0 or above, be available to volunteer at least 5 hours per week, and have strong attention to detail. Previous research experience is not necessary. Psych 199 credit available upon request.

Interested applicants should send a CV/resume and a brief cover letter (~ one paragraph) explaining their interest in the position to Cara Woodworth at cara.woodworth@berkeley.edu.
Team Chemistry and Reputation in Baseball

Faculty Sponsor: Professor Dacher Keltner
Supervisor: Hooria Jazaieri
Contact Email: Hooria@berkeley.edu
Location: On campus and remotely
Position Available: Spring 2018, Summer 2018, Fall 2018

Description of Research:
The proposed research will examine personal reputation and team chemistry within baseball players and teams. The central goal is to understand the processes that underlie the formation and maintenance of personal reputation and team chemistry/team cohesion through a series of studies that implement a multi-method approach. Study designs include qualitative data collection, gathering video and narrative accounts (and subsequent qualitative data coding), watching interviews and games and coding based on set coding procedures, etc.

Description of student responsibilities:
Research assistants will be involved in several stages of this research including:

1. Reading empirical articles and performing literature searches and reviews to aid in study design and provide substantive background for designing studies and manuscript preparation.
2. Gathering video and narrative accounts of players and teams of interest.
4. Assisting with the organization and management of data.

No prior research experience is required - all research assistants will be given training. Psych 199 course credit is available (2 or 3 credits only).

Application process:
Interested applicants should email their interest in the baseball study and resume to the supervisor, Hooria Jazaieri (hooria@berkeley.edu). Interviews will be arranged with qualified applicants.

Application deadline:
Positions will remain open until filled.
Psychological and Neural Mechanisms of Perceptual Stability

Faculty Sponsor: David Whitney
Main Contact: ymurai@berkeley.edu (main contact)
Location: Tolman Hall
Position Available: Spring 2018
Website: https://whitneylab.berkeley.edu

Description
The Whitney Lab is looking for research assistants for a few projects. RAs can acquire various research skills and potentially give presentations on their scientific work.

Below is the list of projects
- Serial dependence: a psychophysical study about the stability of human’s visual perception
- An EEG study of serial dependence: studying the physiological basis of serial dependence using EEG
- Perceptual learning of position perception: how does human visual system code objects' position?

RA tasks include
- recruiting and scheduling experiment participants
- data collection for psychological and neuroimaging experiment
- (potentially) data analysis using softwares such as MATLAB, EEGLAB, BrainVoyager

The abilities necessary for RA include
- managing time and multiple tasks
- maintaining effective communications with lab members and participants

Application Deadline
Open until filled

If you are interested, please contact Yuki Murai at ymurai@berkeley.edu.

Thank you!
Neural Mechanisms of Working Memory

Faculty Sponsor: Mark D’Esposito  
Supervisor: Jason Scimeca  
Contact email: jason_scimeca@berkeley.edu  
Location: Giannini  
Position Available: Spring 2018, Summer 2018

Description of Research:
Short-term working memory (WM) refers to our ability to mentally maintain and manipulate information that is no longer present in the external environment. WM is a core cognitive function and is associated with reasoning, intelligence, and academic success. However, there is a severe limit on the amount of information that we can hold in WM, and this capacity limit has been considered a primary constraint on human cognition. Likewise, lower WM capacity is associated with clinical conditions like schizophrenia, ADHD, and traumatic brain injury. Although WM is essential to many facets of cognition, there is little consensus on the psychological and neural mechanisms that support successful memory. The goal of this research program is to characterize the neurocognitive mechanisms that support the maintenance and manipulation of information in WM in humans. This is accomplished through a combination of computer-based behavioral studies, neuroimaging (functional magnetic resonance imaging, fMRI), and noninvasive brain stimulation (transcranial magnetic stimulation, TMS).

Research Assistants will primarily be responsible for:
(1) training volunteer participants on computer-based memory tasks and collecting data,  
(2) performing analyses and quality control assessment on data, and  
(3) assisting with fMRI and TMS data collection.

The student will be trained in all relevant procedures, including basic fMRI and TMS techniques, and will develop an understanding of how cutting-edge research methods are used to investigate questions about human memory. Additional opportunities are available for advanced students depending on specific skills and interests. In addition, the student will be encouraged to attend weekly lab meetings and monthly journal club meetings in lab, where they will have the opportunity to interact with Dr. D’Esposito and other lab members. Day-to-day work in the lab will be supervised by a postdoctoral fellow or graduate student involved in this project.

Applicants should email jason_scimeca@berkeley.edu with your name, (intended) major, and expected graduation date. We will reply to all emails with a short questionnaire to collect additional details about your availability, background, interests, etc. A strong interest in psychology and cognitive neuroscience is necessary. Strong organizational skills, interpersonal skills, and conscientiousness are essential. There is a preference for students that have completed (or are enrolled in) psychology, cognitive science, and/or cognitive neuroscience courses. Previous research experience is desirable, but not essential. Proficiency with MATLAB, Excel, SPSS, or other statistics/programming skills are a plus, but not required. Time commitment: Approximately 5-10 hours total per week; schedule must allow at least 2 days each week with a block of 2-3 consecutive hours to collect data in the lab. Position open until filled.
Golden Bear Sleep and Mood Research Clinic (Depression Treatment and Transdiagnostic Sleep Intervention Study)

Faculty Sponsor: Allison Harvey
Supervisor: Melanie Tran
Contact email: m.tran@berkeley.edu
Location: Tolman Hall
Position Available: Spring 2018

Description of Research
The Golden Bear Sleep and Mood Research Clinic is currently working on two studies. While treatments for depression have improved over the years, a need exists to improve treatments for Major Depressive Disorder (MDD) because a proportion of patients do not respond to existing treatments. Of those who do, the majority relapse. Meta-analyses confirm Cognitive Therapy (CT) as a frontline treatment, with patients less likely to relapse than those on antidepressant medications alone. Despite these impressive outcomes, there is room for improvement, as only one third of all patients respond to treatment and last a year without relapse. The purpose of our Depression Treatment Study is to improve treatment in order to provide lasting benefits for people with depression. Our ‘TranS-C’ study is testing the effectiveness of a transdiagnostic sleep intervention for adults with severe mental illness in community mental health clinics throughout Alameda County. This study investigates an intervention to improve sleep and seeks to ensure that the findings are generalizable to the real world.

Description of Student Responsibilities
Students will be assigned to various lab crews based on interest and demonstrated skills. There may be opportunities in the future to be involved in more advanced projects with direct clinical exposure. Students must be able to commit to around 10 hours of work per week for a minimum of one school year. Some weeks will be lighter than others, but having the flexibility to work 10 hours a week is required. Research assistants have the opportunity to support the study in the following ways: Data Crew Duties will include data entry of a variety of study information. Data entry experience is preferred, but not required. Working knowledge of Excel and Google Sheets, MS Access and R is preferred and would be helpful in fulfilling the role. Coding Crew Students that demonstrate excellent attention to detail and dedication to the project may be eligible to participate in the Coding Crew in which they will code CT treatment videos. This involves watching treatment videos to identify specific microanalytic components. Familiarity with CBT and behavioral coding experience is a plus, but not required. There will be a coding task to determine eligibility for joining the coding team. Recruitment and Administrative Crew Students will help project coordinators with aspects of the study including collecting sleep diaries (calling participants daily to collect sleep data over a week-long period), assisting with recruitment, preparing for sessions and assessments, and various administrative tasks. They may have the opportunity to accompany staff to psychological assessments and treatment sessions at participants’ homes (though this happens less frequently and will depend on performance in the lab and scheduling). RA Meetings RAs will attend biweekly meetings to gain a greater understanding of the research process, gain professional development skills (e.g., CV workshops, graduate school workshops, etc.), get to know one another, and experience being a part of a research team!

Please send a brief cover letter detailing your interest in the study, relevant experiences, and expected graduation date. Please also attach a resume or CV, and send it to m.tran@berkeley.edu. You will be asked to fill out a brief application.

Position Filled!
Biased Priors or Inference in Depressed and Anxious Individuals

Faculty Sponsor: Sonia Bishop
Main Contact: cgagne@berkeley.edu
Location: Tolman Hall
Position Available: Spring 2018
Webpage: http://bishoplab.berkeley.edu/

Description of Research
Computational models have been a powerful tool for studying decision-making in both psychology and neuroscience. They have recently become popular in psychiatry as well (Adams 2015; Browning 2016; Huys 2015; Huys 2016). Part of the appeal has been that computational approaches delineate individual differences in decision-making that can explain why anxious and depressed individuals often make poor decisions. Study Objective: This study aims to investigate potential decision-making biases exhibited by anxious and depressed individuals. Specifically, we will look at whether anxious and/or depressive disposition (trait anhedonia, trait anxiety etc.) are associated with (1) excessively negative prior beliefs, (2) asymmetric updating of these beliefs for positive or negative feedback, and/or (3) different updating for beliefs about the self v.s others. Teasing apart the contribution of these potential biases will require the use of computational models. Details: 100 RPP participants will initially complete a short online profile consisting of their grades, and a short description of themselves. They will then anonymously rate how much they would like to work with the participants in a hypothetical internship. Roughly 60 participants will then be invited to come into the lab and receive feedback on how often they were chosen to work with. During this feedback, participants will make judgments about the likelihood that they were chosen. We will computationally model how participants update their belief during feedback.

Description of Student Responsibilities
The RA will assist with all stages of experimental research including: (i) design of the task, (ii) recruiting participants, (iii) collecting behavioral data, (iv) analyzing preliminary results in python. The RA will attend lab meetings and be a full part of the lab. Specific Commitment: Given our commitment to mentoring, a strong commitment on applicants’ behalf to the lab’s research including a minimum time commitment of 12 hours per week is requested. Lab work can be for credit (6-9 hours), with arrangements for payment and work-study for additional hours. Potential Extensions: The lab only takes a few RAs each year and makes a strong commitment to their learning experience and career development. Opportunities are available for senior thesis supervision, attendance of graduate seminars, and co-authorship on conference proceedings / posters. Desirable Skills Some experience running participants in psychology experiments Basic programming ability (preferably in python)

Application Process
Please email cgagne@berkeley.edu, cc’ing sbishop@berkeley.edu with interest. Please attach resume/cv and list of relevant classes.

Application Deadline: Open until filled
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Representation of Science in the Media

Faculty Sponsor: Tom Griffiths
Supervisor: Rachel Jansen
Main Contact: racheljansen@berkeley.edu
Location: On Campus
Position Available: Spring 2018 and Summer 2018

Description of Research
The goal of this research project is to understand how scientific findings - beginning with but not limited to psychology and cognitive science - are reported and understood by laypeople, journalists, and researchers. Through online studies, we will test what participants can remember about findings they have read about, what kinds of sources are deemed credible, and if there are findings more frequently mentioned than others.

Description of Student Responsibilities
Student researchers will work closely with one graduate student in Cognition and two postdoctoral researchers. For this project, applicants should be either already proficient or interested in the design of semi-automated online experiments using Qualtrics and Amazon's Mechanical Turk. Responsibilities will also include searching for, reading, and coding academic papers and news articles about various scientific findings. Qualifications: FIVE REQUIRED SKILLS: 1) A strong computational background. 2) Experience programming in Python or R (preferably using jupyter notebooks). 3) Experience with statistics and/or machine learning. 4) A strong interest in cognitive science or scientific communication. 5) Strong attention to detail. In your application, please also specify whether you are able to continue working in the fall and/or the following spring or summer. ADDITIONAL PREFERRED EXPERIENCE (NOT REQUIRED): 1) Experience in another scientific domain. 2) Having taken "Computational Models of Cognition". 3) Experience with Adobe InDesign, LaTeX, and data visualization.

Application Process
Please send an email to Rachel Jansen (racheljansen@berkeley.edu) containing a CV and cover letter describing your relevant experience and interest in this topic.

Application Deadline: Open until filled
Faculty Sponsor: Jason Okonofua
Supervisor: Shoshana Jarvis
Main Contact: sjarvis@berkeley.edu
Location: Tolman
Position Available: Spring 2018, Summer 2018

Description of Research
The intervention is designed to increase empathic responses to behaviors in disciplinary contexts. As a result of these modules, we predict that administration of discipline will decrease in general as well as a reduction in racial disparities in discipline.

Description of Student Responsibilities
Research assistants will transcribe data, track participation in interventions, test materials, and other assorted tasks as needed.

Application Process
Interested applicants will send resumes to supervisor's email address. A subset of interested applicants will be interviewed the week of 1/29.

Application Deadline: January 24th, 2018


Emotion Regulation and Social Interaction

Faculty Sponsor: Ozlem Ayduk
Supervisor: Craig L. Anderson
Contact email: clanderson@berkeley.edu
Location: Tolman Hall
Position Available: Spring 2018, Summer 2018

Description of Research
The goal of this project is to examine how different emotion regulation strategies impact real-life social interactions that people have. In this project, participants come to the lab and talk to research assistants about emotionally-evocative experiences they've had.

Description of Student Responsibilities
The project is suitable for people who do not have previous research experience, and affords students the ability to work fairly independently. Researchers will be responsible for scheduling participants, coming to scheduled sessions early to set up equipment, running participants through the protocol, and crediting the participants afterward. *Note* this study involves real-life interactions with people talking about potentially sensitive subjects. Successful applicants will be comfortable having a conversation in English as well as maintaining a high degree of respect for the confidentiality of participants.

Application Process
Applicants should send a letter of intent as well as a CV or resume to clanderson@berkeley.edu. CITI certification in human research is required to work on the project, but not necessary at the time of application. Applicants should indicate whether they have obtained certification.

Application Deadline: 02/02/2018

Position Filled!
The Effect of Oxytocin on Cohesion and Teambuilding

Faculty Sponsor: Dacher Keltner
Supervisor: Craig L. Anderson
Contact email: clanderson@berkeley.edu
Location: Tolman Hall
Position Available: Spring 2018, Summer 2018

Description of Research
The goal of this project is to investigate how the administration of the neuropeptide oxytocin affects team cooperation and cohesion in small groups of three. Under research assistant supervision, groups will participate in state-of-the art computer simulations designed by cognitive scientists designed to objectively assess cooperation and team performance.

Description of Student Responsibilities
Experience on this project will be ideal for students interested in pursuing graduate-level studies or medical school. This research will involve running college-aged participants through a series of computer tasks, properly administering oxytocin using a nasal spray device, collecting physiological data (e.g. ECG), entering data into computer databases, and cleaning data in preparation for analysis. Successful candidates may also have the opportunity to assist in data analysis and help in the preparation of scientific presentations.

Application Process
APPLICANT QUALIFICATIONS 1. Applicants are expected to be able to dedicate at least 10 hours to the lab per week consisting of at least two 4-hour blocks. It is possible to gain course credit for working on this project. 2. Excellent communication and organizational skills. 3. The ability to actively contribute as a team player, manage details, track participant progress, think creatively, work independently, and meet deadlines. 4. Previous research experience is preferred, but not required. Applicants should email a resume and a short statement of purpose to Dr. Craig Anderson at clanderson@berkeley.edu to receive a link for an application survey.

Application Deadline: Open until filled
Behavior Change and Opinions about Sleep Coaching

Faculty Sponsor: Allison Harvey
Supervisor: Courtney Armstrong
Contact email: courtney.armstrong@berkeley.edu
Location: Golden Bear Sleep and Mood Research Clinic
Position Available: Spring 2018
Website: https://www.ocf.berkeley.edu/~ahsleep/

Description of Research
The purpose of this research study is to investigate how behavior change is initiated and maintained in a therapy setting and to identify obstacles and aids to these processes. For this project, we are interviewing individuals who have previously participated in our research lab's sleep coaching study. Interviewers will ask participants about changes they have made or maintained since sleep coaching was completed, and examine factors that have made these changes easier or more difficult to maintain. When one seeks to improve their mental or physical health, changes in behavior are often necessary. Our goal is to help people in the future make these changes more easily.

Description of Student Responsibilities
Research assistants will be responsible for transcribing the audio recordings of interviews and helping with data management. Research assistants will also help interviewers prepare for meetings with participants by helping to identify a behavior of interest for the subject of the interview. This will be done with the assistance of a supervisor and training will be provided. On occasion, research assistants will be given articles to read and may be asked to assist with a literature review. The review would focus on behavior change and maintenance and include subjects such as habit formation, motivation, and stages of change.

Application Process
Students who are interested should send their resume, their availability for the semester, and any questions they have to courtney.armstrong@berkeley.edu. We will then schedule a brief interview if appropriate to discuss the RA position in further depth and what it might entail.

Application Deadline: Open until filled
Research on Children's Linguistic and Cognitive Development

**Faculty Sponsor:** Mahesh Srinivasan  
**Supervisor:** Catherine Berner  
**Contact email:** catherineberner@berkeley.edu  
**Location:** Tolman Hall  
**Position Available:** Spring 2018  
**Website:** [http://lcdlab.berkeley.edu/](http://lcdlab.berkeley.edu/)

**Description of Research**
The goal of this program is to provide a comprehensive, hands-on research experience to highly motivated students, while making valuable contributions to cognitive science. Our lab's research explores how linguistic, cognitive, and social abilities arise during human development. A central goal of our research is exploring how these different aspects of development interact with one another. This program is ideal for students who are highly motivated in going to graduate school in psychology, cognitive science, linguistics, or related fields and/or students who are interested in working toward an undergraduate honors thesis.

**Description of Student Responsibilities**
Students will work closely with the lab manager, graduate students, postdoctoral fellows, and each other, and will be involved in many facets of the research process. This will include reading relevant theoretical and empirical papers, assisting with data collection, assisting with stimuli creation and preparation of study materials, recruiting participants, processing or analyzing data. Students may also test participants at schools and/or museums in the Bay Area. Lastly, students will have the opportunity to attend lab meetings. We hope that students will come away from these activities with an enriched understanding of language and cognitive development.

**Application Process**
Please complete an application on our website: [http://lcdlab.berkeley.edu/students/](http://lcdlab.berkeley.edu/students/)

**Application deadline:** 1/23/18
Language, Emotion, and Development (Project LEAD)

Faculty Sponsor: Qing Zhou  
Contact email: qingzhou@berkeley.edu  
Location: On Campus  
Position Available: Spring 2018, Summer 2018, may continue 2019 Fall/Summer/Spring  
Website: https://zhoulab.berkeley.edu

Description of Research
Project LEAD (Language, Emotion, and Development) is a longitudinal study funded by the National Institute of Health (Principal Investigators: Qing Zhou at UC-Berkeley & Yuuko Uchikoshi at UC-Davis). This study aims at investigating the links among bilingual development, executive function, parent-child and teacher-child relationships, and socio-emotional development in young children from Mexican American and Chinese American families. We will recruit 400 dual language learners (initially 3-4 years of age, 200 Chinese Americans, 200 Mexican Americans) from Head Start programs in the San Francisco Bay Area, and follow these children and their families annually for three years (from preschool to kindergarten). Three waves of multi-method data will be collected from children and families through classroom observation, home interview and observation, parent and teacher survey, and language and neuropsychological test. The data will be used to examine the reciprocal relations between bilingual and socio-emotional development in dual language learners, and test the mediation and moderation mechanisms underlying the developmental pathways. The position is ideal for motivated individuals looking to work with underserved populations, and/or develop as researchers before applying to graduate programs in clinical psychology, education, public health, medical school, or related fields. Training includes opportunities to learn to administer multiple measures and tools, including psychological and language assessments, and school classroom observations. Working with our lab also provides experience working with diverse, low income, immigrant families and teachers in Head Start classrooms.

Description of Student Responsibilities
Students will work under the direct supervision of Dr. Zhou, Dr. Uchikoshi, and graduate students. Responsibilities include:
- Recruit research participants from local preschool Head Start programs, maintain contact with preschool teachers in coordinating recruitment events
- Train and conduct home assessments, Head Start classroom observations, data entry, and other lab tasks
- Carry out psychological and behavioral assessments of preschool-age children and their parents at participants’ homes
- Carry out individual behavioral assessments of children and classroom observations in Head Start classrooms
- Distribute and collect teacher questionnaires at preschool centers, track and maintain the teacher data
- Maintain study databases using SPSS, Excel, Qualtrics, and REDCap
- Participate in regular lab meetings and supervision meetings with the PIs and graduate students
- Mandatory general training meeting: February 12, 5:00-7:00pm at UC Berkeley

Application Process
Applicants will need to submit an online application:  
http://ucbpsych.qualtrics.com/jfe/form/SV_eQhBdYuYuYG89T7f (also found on lab website).  
Applicants will be contacted for interviews and assessed according to below criteria:  
- Excellent interpersonal, and verbal communication skills
- Ability to interact and work effectively with culturally and experientially diverse children, families, and research team members.
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- Experience in conducting interviews and behavioral assessments with young children and adults
- Familiarity with audio-visual and camera equipment
- General computer skills, including proficiency with Microsoft Word, Excel, PowerPoint, and SPSS
- Demonstrated ability to accurately complete detailed work
- Cantonese or Spanish language skills (verbal, reading, and writing) and familiarity with Chinese or Latino culture encouraged
- Prior research experience in the Psychology field, especially experience working in research labs or teams
- Availability on some weekends to conduct home assessments
- Access to a valid driver’s license, auto insurance, and car

Application deadline: Position open until filled
The Psychological and Physical Consequences of Income Inequality

Faculty Sponsor: Serena Chen  
Main Contact email: dstancato@berkeley.edu  
Location: 4121 Tolman Hall  
Position Available: Spring 2018  
Website: [http://serena-chen.squarespace.com/](http://serena-chen.squarespace.com/)

Description of Research
We are examining the influence of income inequality on physiological responses to stress. This project will consist of a lab-based, experimental study with undergraduate participants. Participants will be paid to perform a stressful task, and their compensation relative to other participants will be manipulated to be either relatively equal or extremely unequal. Then we will be collecting samples of the participant’s saliva and later analyzing it for levels of hormones related to stress. We will also be measuring behavioral outcomes from the task, which will be video recorded.

Description of Student Responsibilities
You will assist in coordinating and administering experimental sessions (this involves multiple duties, including the collection of saliva), including creating and managing the session schedule for yourself and other research assistants. While this is the only required duty, there will be many other opportunities to assist in different sorts of tasks, including behavioral coding (i.e., viewing videos from experimental sessions and rating participants for various behaviors of interest) and literature review. Furthermore, I will assign a project where you will be required to conduct literature review and/or design an experiment to research a topic of your choosing in order to get some grad student-level experience.

Application Process
Send an email to Daniel Stancato (dstancato@berkeley.edu) and include the following information: -Your year in school and major -List of psychology courses you've taken -Interest in psychology -Any past research experience (not required) -Number of hours you would be available to work every week A resume is also helpful but not required.

Application Deadline: Open until filled
Human Driver Gaze Study and Applications in Self-Driving Cars

Faculty Sponsor: David Whitney  
Supervisor: Ye Xia  
Main Contact email: yexia@berkeley.edu  
Location: Tolman Hall  
Position Available: Spring 2018 and on  
Website: https://arxiv.org/abs/1711.06406

Description of Research
There has been great progress in autonomous driving recently with the application of Deep Learning methods. However, how to make artificial machines able to perceive the visual scene as human drivers do remains a big challenge. This project uses eye-tracking technology to study where human drivers attend in real driving situations. The insights and data will be used to make Deep Learning models that can perceive the visual driving scene more intelligently to help achieve autonomous driving.

Description of Student Responsibilities
Learn how to use an eye-tracker Collect human drivers’ eye movements while they are watching driving videos in lab Potential responsibilities if capable: Use R to do statistical analysis of human drivers’ eye movements Use HTML and Javascript to code online experiments to study which frames of the driving videos capture crucial driving situations

Application Process
Please email your resume to yexia@berkeley.edu. An interview may be held.

Application Deadline: Open until filled
Emotion and Social Behavior

Faculty Sponsor: Dacher Keltner
Supervisor: Joseph Ocampo
Main Contact email: jmocampo@berkeley.edu
Location: On Campus
Position Available: Spring 2018

Description of Research
We are currently working on behavioral scoring and analysis of three existing projects regarding how emotion experience and expression influences relationships among romantic couples, friends and strangers, and behavioral outcomes afterward. The data consists of video, audio, self-report and physiological data during emotion expressions, stressful tasks and discussions. A project involving emotion, social decision-making and valuation of self- and others’- outcomes is in planning.

Description of Student Responsibilities
The minimum time commitment to the Emotion and Social Behavior Lab is 6 hours per week (8 preferred). New research assistants in the Emotion and Dyadic Relationships Lab will be expected to score video data for behaviors such as emotional expression and cohesion, clean and organize existing self-report data, and engage with the existing literature on emotion and social perception/behavior. Research assistants that demonstrate high quality of work and dependability will be invited to take on a larger role in the lab, which may include collecting data, training on the collection and analysis of autonomic psychophysiological data, training and assisting in data analysis, and assisting in the planning/running of future studies.

Application Process
Please email Joseph at jmocampo@berkeley.edu to receive a link to the application survey.

Application Deadline: Open until filled
Interactive Visualization of Cerebellar Neuroimaging Data

Faculty Sponsor: Richard Ivry
Main Contact email: maedbhking@berkeley.edu
Location: On Campus
Position Available: Spring 2018, Summer 2018
Website: http://ivrylab.berkeley.edu/

Description of Research
The cerebellum is a functionally diverse structure that houses approximately 80% of the total number of neurons in the human brain. Over two decades of neuroimaging research has highlighted the importance of this brain region in both motor (i.e. coordination, balance) and non-motor (i.e. language, working memory) function. Currently, cerebellar neuroimaging results are disseminated as 2D images in scientific journals. While this is the standard approach in the field, the reader has somewhat restricted access to the many ways in which the data can be visualized. In order to bridge the gap between the reader and the data, online visualization tools allow the reader to easily interact with the data. This approach has been pioneered by the Gallant Lab here at UC Berkeley for the cerebral cortex (see http://gallantlab.org/index.php/brain-viewer/). However, there is no such visualization tool for the cerebellum. Therefore, the aim of the current project is to develop an online visualization tool that allows the user to interact with cerebellar neuroimaging data. We have collected a multi-task dataset (26 unique tasks, 25 subjects) that will provide a starting point for this project. These data will be displayed on a spatially unbiased atlas template of the cerebellum (see http://www.diedrichsenlab.org/imaging/suit.htm). The idea is that users will be able to rotate a 3D representation of the cerebellum and visualize how tasks activate this brain structure. A further application of this interactive visualization tool will allow other researchers to upload their cerebellar imaging results to the toolkit. In neuroscience, interactive visualization tools are a powerful means by which to disseminate new and interesting findings. There is a wealth of neuroimaging evidence for the cerebellum but as of yet, there are no interactive viewers. We believe that this toolkit will provide a much-needed platform for the efficient communication of cerebellar neuroimaging data as well as promoting novel and exciting results to the neuroscience community at large.

Description of Student Responsibilities
Students applying to this position are required to have experience in python and git. An interest in neuroimaging techniques and cognitive and computational neuroscience is recommended but not required. The student will work closely with a graduate student and a postdoctoral fellow in the Ivry lab to develop the online and interactive visualization tool. Deadlines will be set at the start of the project and meetings will be held once a week to ensure that progress is being made. Data collection is not a requirement of this project, therefore, the student will be free to work in a location of their choosing.

Application Process
Interviews will be held by the graduate student and postdoctoral fellow in the Ivry lab. No prior knowledge of the literature is expected and students will not be questioned on their knowledge of
neuroimaging methods, the cerebellum etc. A decision will be reached within a week of the interview. The position will remain open until a suitable candidate is recruited.

Serial Dependence in Real World Scenes in Vision

Faculty Sponsor: Bill Prinzmetal
Main Contact email: wprinz@berkeley.edu
Location: On Campus
Position Available: Spring 2018
Website: https://whitneylab.berkeley.edu/

Description of Research
Prof. Dave Whitney discovered in making simple judgments (e.g., angle of lines). This could be an important part of vision: we use the past to help determine what we currently see. However, if this is really part of our everyday vision, I would like to show that it occurs with real world scenes (the angle of stripes on a shirt) and if the scene changes, the effect should be greatly diminished, like a scene cut in a movie (from bedroom to golf course). I work as part of the Whitney lab. The RA will be invited to attend lab meetings as part of the hours put in, if it fits into the RAs schedule. You will also meet with me about once every other week to go over results, etc.

Description of Student Responsibilities
I want a commitment of at least 6 a week at the same times. The RA will be running RPP subjects in experiments on a computer. Running subjects gets to be a little boring, but the student will be encouraged to help design the experiments and lean some interesting statistics. The most important abilities are (1) reliability, the RA must show up when subjects are scheduled; (2) interpersonal skills to keep the subject motivated. If the RA has some programming experience (Matlab or Python) that is a plus, but not required.

Application Process
Please email me at wprinz@berkeley.edu, and put "Research Assistant" in subject line. Tell me how many hours you are available (not weekends or evenings), the relevant classes you have taken, and anything else you think I should know (e.g., worked another lab, issues with scheduling, etc). I only need 1 RA. The experience in each lab is different. One of my main concerns is that you get the lab situation that fits your 'style.' Mine involves probably more F2F with the professor, and if you can make the Whitney lab meetings, some pretty high level discussions. But the main job is collecting data in a computer run experiment.

Application Deadline: Open until filled
Relationships and Social Cognition Lab

Faculty: Ozlem Ayduk
Supervisor: Ozge Ugurlu
Contact email: ozge.ugurlu@berkeley.edu
Webpage: https://rascl.berkeley.edu/
Position Available: Spring 2018

Description of Research
Relationship and Social Cognition Lab (RASCL) is looking for computer science students and data analyst who have strong programing and statistic skills to investigate the development of children’s ability to recognize and understand other people’s emotions.

Objectives and goals of the project
The overarching goal of the current research is to better understand why delay of gratification is a powerful predictor of developmental outcomes and what aspects of the family environment function to cultivate this skill. We will measure delay of gratification ability in a sample of 5-to-8-year-old children and will evaluate whether performance on this task relates to an array of child competencies and parent-child dynamics.

Work procedures
New research assistants in the Relationships and Social Cognition Lab (RASCL) will be expected to apply design in programing languages and analyze them.

Research assistant should:
Should have strong programing skills in at least one of the programing languages.
Be motivated to improve their experiment design skills.
Should have strong R skills to analyze data.

Weekly 5-9 hours of dedication.

How to apply:
Email to ozge.ugurlu@berkeley.edu

Deadline: Until the position is filled
Anger Intervention Study

Faculty Sponsor: Sheri L. Johnson
Supervisor: Mackenzie Zisser
Contact Email: mzisser@berkeley.edu
Location: On campus
Position Available: Spring 2018
Website: http://calmprogram.wixsite.com/calmania/anger-intervention-study

Description of Research
This study is testing an anger intervention targeting people with verbal or physical aggression difficulties and high levels of impulsivity. The purpose of this study is to teach various techniques to identify and reduce aggressive tendencies. This intervention uses online sessions, a mobile device app, and (in a smaller sample) wristband tracking devices to collect self-report data, experience sampling (daily journaling) data, and physiological data.

Description of Student Responsibilities
Research assistants will be asked to assist senior team members with participant communication (recruitment, phone screenings, scheduling), data management, and data coding and analyses. The goal is for the undergraduate to learn the research processes of a pilot intervention study, as well as a better understanding of the roles of impulsivity, emotions, and life experiences in aggressive behavior. We are seeking upper division students with a GPA of at least 3.5, and availability with class schedules to accommodate communication with participants throughout the week. Punctuality, professionalism, and a careful and conscientious demeanor are imperative. Because this project may involve working with participants with mental health diagnoses, strong interpersonal skills and comfort with interacting with research participants is required.

Application Process
To apply, please send your resume and a brief statement of interest to mzisser@berkeley.edu. If we would like to pursue your application, we will be in contact shortly to set up an interview.

Application Deadline: Open until filled
Personal Narratives and Intergroup Attitudes

**Faculty Sponsor:** Jason Okonofua  
**Supervisor:** Malik Boykin  
**Main Contact email:** cmb@berkeley.edu  
**Location:** On Campus  
**Position Available:** Spring 2018, Summer 2018

**Description of Research**
The purpose of this research study is to better understand the relationship between social identities, personal experiences, and attitudes amongst groups. We are looking at how personal experiences and different types of media influence various attitudes amongst groups and group perceptions. The results of this study may result in a better understanding of how personal experiences shape relations between members of different social group.

**Description of Student Responsibilities**
You will assist in coordinating and administrating experimental sessions, and helping to manage the session schedule. Assistant responsibilities will also include conducting literature reviews, as well as coding qualitative data. I will also assign tasks tailored to your own personal goals and interests. Additionally, I will be available to provide networking and mentorship opportunities.

**Application Process**
Please email your resume or CV, as well as a paragraph describing your personal and professional goals in psychology to Malik Boykin at cmb@berkeley.edu I would like to explicitly state that previous research experience is not required for this position.

**Application deadline:** Open until filled