Research Experience for High School Students Project Description

Project Title: Cognitive Training Game Development and Outcome Assessment

1. Overall Research Project

Games are ubiquitous in our society, yet as a society we have only recently begun to take advantage of the new technology that can seamlessly integrate into games to enhance our learning, health, and creative potential. We seek to build resources for the San Diego community to use games as a platform for broader engagement and innovative learning. Through this work, the UCSD community will be better positioned to translate innovative research and artistic concepts into tangible products for use in education, physical and cognitive therapy, specialized training and recreation.

The San Diego Supercomputer Center and the Institute for Neural Computation at UC San Diego employs a diverse group of scientists and engineers with varying backgrounds and pathways to their careers. Our goal is provide young adults on the Autism Spectrum with experience in some of these STEM professions that may be of interest to them.

We are looking for young adults with basic software testing and writing skills, who are interested in helping promote an awareness of STEM careers, particularly as they relate to Game Testing and Programming. These interns will also become familiar with the latest research in STEM education and the recommendations to increase student interest in pursing careers in these fields. Students will learn about the various departments and projects at the San Diego Supercomputer Center, affiliated laboratories, and the professionals supporting these projects.

Research Project Background

In spite of the variety and ubiquity of video games, one thing remains true: creating an engaging game requires a host of specialist skills that infrequently co-exist in a single individual. The challenge becomes greater with the desire to integrate novel engagement technologies and embed specific training, learning, or testing principles while keeping the game engaging. We have expertise in designing and implementing games at the Research in Autism and Development Lab (RADLab) at UCSD and want to train others in all aspects of the process, especially game testing.

Currently, individuals living with an Autism Spectrum Disorder experience difficulty finding employment after high school or college. This program aims to expose interns to the sorts of STEM careers opportunities that are available at UCSD, especially as they relate to Game Design and Development.

2. Number of Students Supported: 3 – 4

3. Name of Lead Person: Dr. Leanne Chukoskie, Associate Director, RADLab, Assistant Science Director, Temporal Dynamics of Learning Center (TDLC), Assistant Research Scientist, Institute for Neural Computation, UCSD
4. **Plan to Integrate Student(s) into Group Activity**: Dr. Chukoskie will supervise interns directly, providing them with the research on the use of games in cognitive training, education and health care. Students will participate in the poster session at the end of the internship and are free to be as creative as they want in their presentation. Meetings will be set up throughout the project for face-to-face interaction and progress review. Credit will be given to the students for their work so they can include it in their portfolios. Students may also be invited to attend summer conferences at SDSC if they are interested and their schedule allows.

5. **Student Prerequisite:**
   - Ability to write at least at a 10th grade level (A or B in 10th grade English or Journalism)
   - Proven literacy in science and technology (A or B in at least one science or computer course at the high school level)
   - Interest in exploring STEM careers
   - Comfortable with interviewing engineers, technicians, researcher, primarily in person
   - Familiarity with basic computer skills and Microsoft Word

6. **Number of Hours Per Week**: 10 – 15

7. **Relevant link**: radlab.ucsd.edu