



# GRADUATE SHOWCASE

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# SHOWCASE PRESENTERS

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## HARJIV SINGH

Skilled motor performance is something we are all thriving for. From lifting more weight at the gym to learning to play tennis to running greater distances, how we control our attentional focus is paramount toward the success of these endeavors.

Harjiv's research examines how the development of skilled performance is a function of one's attentional focus. Understanding how the motor system utilizes different attentional focus manipulations will provide performers and practitioners with tools to aid in improving performance, reducing injuries, and creating a more optimal learning environment.







## MARYAM MOHIEDDIN RAD

Maryam's research is dedicated to investigating the campus life challenges and experiences of Muslim female students in the U.S. According to the literature, Muslim students encounter a myriad of challenges during their campus life. These challenges proved to affect Muslim students' academic outcome as well as their campus life quality and often result in their marginalization on campus.

Maryam's research aims to identify key contributing factors to the Muslim students' campus life challenges through a case study. Being a Muslim student herself, Maryam hopes that her research helps policymakers and campus officials hear Muslim students' voices and develop strategies to accommodate their needs on campus. Undoubtedly, providing students with quality campus life contributes to their psychological health as well as assisting them to succeed in the trajectory of academic success.





## JEREMY SMALLWOOD

Understanding our planets form outside of our solar system is instrumental in eventually answering the big questions in astronomy, like “are we alone in the universe?” The majority of stars in the galaxy are formed in binary pairs, meaning the two stars orbit one another. Furthermore, disks of gas and dust are commonly seen around binary star systems, which are the sites of planet formation.

Jeremy’s research looks into how the disk evolves around binary systems utilizing hydrodynamical simulations and linear theory. The forming planets are dependent on the disk structure; therefore, Jeremy’s simulations can further understand planet formation scenarios within the galaxy. The more we learn about the planets around us, the more we can explain how our planet came to be.



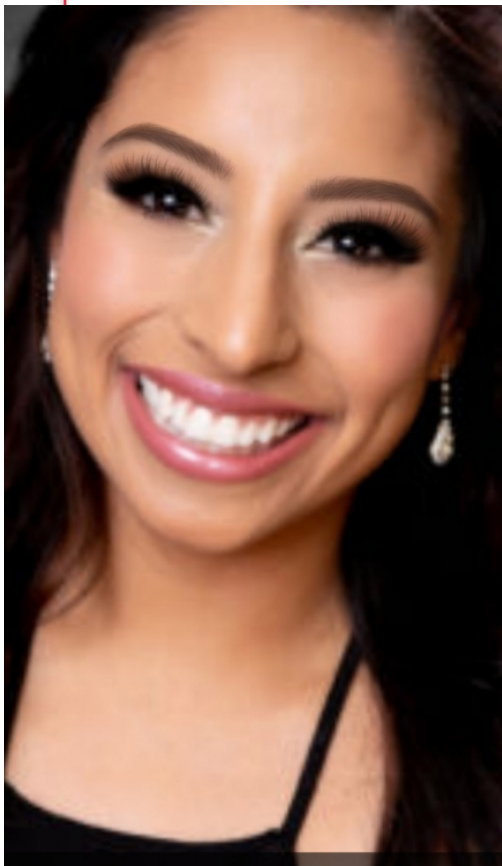


## MATHEW SUNIL VARRE

Mathew is a final year doctoral student at UNLV, and he studies the biomechanical changes occurring in people with diabetes mellitus. Diabetes is the seventh leading cause of death in the United States and leads to other serious health issues. In individuals with diabetes, neuropathy, a common complication, leads to breakdown of skin underneath the feet and high loads or pressures under the feet making them prone to foot ulcers. Early detection and intervention could reduce the risk for these foot ulcers and amputations.

Through his research, Mathew attempts to predict the progression of diabetes and its complications using pressure data collected with pressure measuring insoles and machine learning algorithms. The computer model trained based on the pressure data could be used as a screening tool to monitor changes in people with diabetes and diagnose neuropathy at an early stage. Successful development of such a diagnostic tool will allow clinicians to provide better treatment and foot care management recommendations to persons with diabetes.





## LILI EQUIHUA

Lili is a master's student at the UNLV School of Medicine in the Couple and Family Therapy program. Her passion, focus, therapeutic model, and research revolves around resilience. Everyone suffers from adversities in their lives, even now with COVID-19, economic uncertainty, and/or injustice in our society. Lili has dedicated her research and career to empower and teach others about resilience.

Her research specifically discusses how resilience can be used to help treat individuals battling substance abuse; however, her mission is to help others find the strength and resilience within themselves. Life is full of adversities small or grand, but the difference is whether or not you are going to be resilient with the adversities you encounter in your life.

"Life doesn't get easier or more forgiving, we get stronger and more resilient."

— Steve Maraboli; Life, the Truth, and Being Free







## SHEKHAR SINGH

Emotions are a powerful tool in communication, and one way that humans show their emotions is through their facial expressions. One of the challenging and powerful tasks in social communications is facial expression recognition. In nonverbal communication, facial expressions are key. In the field of artificial intelligence, Facial Expression Recognition (FER) is an active research area.

We demonstrate the classification of FER based on static images, using Convolutional Neural Networks including Pre-processing and Feature extraction techniques. FER can be applied in vast domains, such as security, monitoring and law enforcement, marketing and entertainment, e-learning and medicine, and emotionally intelligent robotic interfaces.



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