**UHD Boosting STEM Student Success In Computer Science/Data Science/Mathematics Through Robotics-Neural Networks-Big Data-Human Computer Interface (HCI)-Machine Learning (ML)**

Competitive Preferences Targeted: 1) Building Capacity for Remote Learning; 2) Adopting and supporting models that leverage technology and provide high-quality digital learning content, applications, and tools; and 3) Providing personalized and job-embedded professional learning to build the capacity of educators to create remote learning experiences that advance student engagement and learning through effective use of technology.

The *UHD Boosting STEM Student Success In Computer Science/Data Science/Mathematics Through Robotics-Neural Networks-Big Data-Human Computer Interface (HCI)-Machine Learning* project aims to increase the four-year undergraduate college experience through interactive and intentional support systems primarily for first-time-in-college (FTIC) freshman undergraduates and transfer community college students majoring in science, technology, engineering, and mathematics (STEM). Further, an intentional target of increasing females/minority females within these STEM areas is a primary objective as well. This project also aims to build interactive, long-term capacity at UHD (an HSI and MSI institution) in support of males and especially females in first, second, and third year computer science, mathematics, and data science interactivity impacting retention, persistence leading to increased graduation rates within at the six-years.

Historically, STEM majors, particularly minorities and females, have demonstrated barriers upon entering STEM education, such as difficult transitions into the rigors of university study, low levels of assimilation associated with non-completion, costs of education, and building relationships early in their collegiate career (Kuh, 2008). By using a curricular and co-curricular approach of student support strategies, the project will address many of the barriers through a variety of categorical support strategies including: 1) Freshman/Transfer Summer Bridge research program where application of the methods will focus learning; 2) Peer to Peer Academic Monitoring and Mentoring-PhD (expert) to undergraduate & Peer-to-Peer; 3) Robotics as a foundation for a) AI, b) Big datasets; c) Neural networks, and d) Human-Computer-Interface development as well as smartphone applications; 3A) Career Industry Just In Time Activities; 4) Development of Job-Embedded Professional Learning Libraries- synchronous and asynchronous availability for in and out of classroom learning; and 5) Leadership and Career Development supporting greater understanding of the workforce demands for the targeted areas and continuous application of universal design for synchronous environments (Zoom, FaceBook Groups, Instagram) and asynchronous (Youtube).

A special focus on recruitment, increasing enrollment, and mentoring of females/female minorities and all minorities majoring in STEM is a critical project objective. The project strives to support all STEM but especially females and minorities across the mathematics, data science, robotics, and computer science.