

Abstract:

Meaningful Research Experiences for Undergraduates (REU) is known to provide many benefits including enhancing enrollment and retention, supporting richer experiential education, improving students' personal, professional and cognitive skills, and encouraging further professional and academic development. Successful REU may be provided through participation in faculty research projects, real-world projects, independent studies, and internship. This paper describes our experience in utilizing the Reduced Gravity Education Flight Program (RGEFP) of NASA's Microgravity University to provide REU. A team of six undergraduate students from two universities successfully proposed, designed, and completed a project titled 'Robotic control using gesture.' Using it as a case study, we discuss the cost effectiveness and lessons learned in using external programs to provide REU. The perspectives from the students, faculty mentors, and organizing institution are provided to present a holistic overview. The goal of the paper is thus to encourage others to experiment with RGEFP or other similar external program opportunities to support REU.

Citation:

Yue, K., Hall, S., Burns, C., Page, R., Lockridge, J., Cusco, P., Wu, L. & Wiggins, N., Undergraduate Research Experience through the NASA Microgravity University Program, Journal of Computer Sciences in Colleges, Volume 28, Number 4, pp. 58-66, 2013