I could apply *‘Research Experiences for Teachers (RET) in Engineering and Computer Science (Opportunity Number: 17-575)’* and *‘Improving Undergraduate STEM Education: Hispanic-Serving Institutions (Opportunity Number: 19-540)’* from Grants.gov. And I also could apply *‘Dear Colleague Letter: Research on Methodologies for STEM Education (Opportunity ID: 176959)’* and *‘Information Technology Awards (Opportunity ID: 134745)’* from Pivot.

Programs from *Grants.gov* to support research and development proposals related to new approaches to STEM teaching, and seek to improve the effectiveness of undergraduate STEM education for both majors and non-majors. Due to the alarmingly high failure rate in a first computer programming course, our research is trying to develop a new pair programming method based on students’ computer programming self-efficacy to reduce this high failure rate in a CS1 course. Compare to the other pair programming method; this method can be used on the first day of the class and active classroom intervention in a computer science course.

Programs from Pivot are eligible for graduate students, and those in the final two years of an undergraduate program in electrical or computer engineering, computer science, or a well-defined computer related field of engineering to apply. As a computer science, a Ph.D. student at Northern Arizona University and my research topic are about how to pair students work more effectively and reduce the high failure rate in the CS1 course.

All of these four programs are associated with STEM teaching or Computer Science learning, hence, these programs suitable for my research which is Pair Programming based on Computer Programming Self-Efficacy in CS1.