ACTIVITIES REPORT FOR: Richard Fitzgerald

1. Background Information

Department: Statistics
Degree sought: Doctoral Degree
Degree Start Date: 08/2014
Research interest/topic: Statistical computing, R
Keywords: statistics, R
Research Advisor 1: Duncan Temple Lang
Telephone: 5307522361
Email: dtemplelang@ucdavis.edu

Research Advisor 2:
Telephone:
Email:

Research Advisor 3:
Telephone:
Email:

2. Skills

Research Skills
Engaged in practical (i.e. hands-on laboratory and/or field experience) in conducting research.
Undertook additional formal coursework/training.

Courses/seminars taken in major discipline: 0
Courses/seminars taken outside of major discipline: 1
Courses/seminars taken that specifically covered interdisciplinary topics related to GRFP project: 1

Professional Skills
Made presentation(s) at academic/scientific professional conferences, meetings, or departmental seminars.
Produced multimedia materials, web sites, or other cyber-enabled tools to communicate the results of GRF activities to external audiences.
Received training in effective time and task management.

Career Skills
Served as a mentor to others (e.g., graduate students, undergraduates, laboratory technicians)

3. International Experience

Took part in any international experiences during this reporting period: No

4. Achievements

Had any achievements to report for this period: Yes

Achievement Type	Achievement Description
Presentations	Author: Richard Clark Fitzgerald Title: Parallel programming with R Workshop Meeting Name: iidata data science convention Location: UC Davis Date: 2/4/17 Type: Oral presentation / workshop

5. Career Plans

Expected Graduation Date: 09/2019
Type of employment pursued: Industry/Business - Full time position
Other:

6. Internships

Took part in any internship(s) lasting 1 month or more: No

7. Other Financial Support

Received any fellowships (other than GRFP), scholarships, or grants during the period: No

8. Stipend Feedback

Stipend comparison to stipends received at your organization: Greater Than Others

9. Additional Funding Opportunities

Have you received any Additioanl Funding Opportunity: No

10. Fellowship Year Summary

Fellowship Year Summary Uploaded: Yes

NSF GRFP Fellowship Report

16-17 Richard Clark Fitzgerald

> Please write a 2-3 paragraph SUMMARY of your fellowship activities and major accomplishments within the last year. This should be written for the public, and should address both the Intellectual Merit and the Broader Impact of your work.

In the fall I partnered with a fellow graduate student, Irene Kim, to initiate and organize a student led statistics department seminar. This broadened our collective awareness of active areas of statistics research. It also resulted in a greater sense of community among the graduate students. Additionally, I met with several groups of community college students interested in transferring and joining our department.

Last summer I wrote a software package called `rddlist` integrating R with Apache Spark through the use of distributed data structures. This was in the context of an internship with the R Consortium working on the ddR (distributed data in R) package. These projects are efforts towards the broader goal of building statistical software that scales up to larger amounts of data. All development was done in an open source environment, so the code is freely available for public use. I've also continued contributing to more established open source projects through patches and code review.

Throughout the year I presented several talks on parallel R programming techniques and concepts. This motivates and relates to my continued efforts researching code analysis and parallel programming. The first talk in October 2016 was through the NSF funded Research Training Group, which drew in a broad audience of mostly graduate students from different departments. Another talk was for the undergraduate organized iidata data science convention in February 2017. I went deeper into an example of GPU programming to show how to improve code run time by orders of magnitude. Professionals as well as undergraduate and graduate students from all across campus attended the talk.