

REU Program Survey #2

Thank you for taking part in the Computing Research Association's REU Program Survey #2! The survey should take no more than 20 minutes of your time to complete. This survey works best with Google Chrome.

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CONSENT FORM

1. Did you complete a survey at the beginning of your REU?
 - Yes [Go to Q5.]
 - No [Go to Q2.]

NEW RESPONDENTS ONLY (Q2. – Q4.)

2. In what year were you born?
[List of years]

[If minimum age not met, exit survey]

3. Before we continue, please click here to read the consent form. [Consent form linked in-text]
4. Now that you have read the consent form and we have verified your age, please indicate whether or not you wish to complete the survey. If you have any questions about this research, the study, or your participation, please email cerp@cra.org.
 - Yes, I have read the consent form and wish to complete the survey.
 - No, I have read the consent form and DO NOT wish to complete the survey. [If selected, exit survey]

CONTACT AND REU INFORMATION

5. First name: _____
6. Last name: _____
7. NSF ID: _____
8. Primary email: _____
9. Alternate email: _____
10. State of your permanent residence: [pulldown]
11. Zip code of your permanent residence: _____
12. REU project name: _____
13. REU project Principal Investigator: _____
14. REU award number (if known): _____
15. REU location: [dropdown list of schools]: _____
16. REU start date (or approximate date): _____
17. REU end date (or approximate date): _____
18. Type of REU award: _____

This survey was developed by Computing Research Association's (CRA) Center for Evaluating the Research Pipeline (CERP). Please acknowledge CRA and CERP in all publications using this survey and direct other parties interested in obtaining the survey to CERP (cerp@cra.org).

- REU Site (typically involves working with a group of 10 or so undergraduates at a university other than one's undergraduate institution)
- REU Supplement (typically working individually or with one other student on a PI's funded project, usually at one's undergraduate institution)
- Don't know

We would like to learn more about the REU you have been participating in.

19. How much time did you spend participating in your REU program?

____ weeks

- I did not participate at all in this REU program. Please explain: _____ [exclusive answer; exit survey after answering]

20. Are you still participating in this REU?

- No
- Yes; Please estimate how many more weeks you will be participating in this REU: ____ weeks

21. Did you have a choice of research projects to work on during your REU experience?

- Yes
- No

22. Did you work on your own research project?

- Yes, I worked on my own project
- No, I worked on an existing project led by another researcher at the site

23. What was your research area for this REU?

- Artificial Intelligence
- Computer-Supported Cooperative Work
- Computing Education
- Data Mining
- Databases/Information Retrieval
- Distributed Systems
- Embedded Systems
- Formal Methods/Verification
- Graphics/Visualization
- Hardware/Architecture
- Human-Computer Interaction
- High-Performance Computing
- Informatics: Biomedical or Other Science
- Information Science
- Information Systems
- Machine Learning
- Natural Language Processing
- Networks
- Operating Systems
- Operations Research
- Programming Languages/Compilers

- Robotics/Vision
- Scientific/Numerical Computing
- Security/Information Assurance
- Social Computing/Social Informatics
- Software Engineering
- Theory and Algorithms
- Other; please specify: _____

24. Which of the following apply to this REU experience? Please select all that apply.

- It was your first experience with research
- It was your first formal REU experience
- There was an orientation to introduce you to the program
- You were part of a team of students
- There were other undergraduate students from your department in your lab
- There were undergraduate students from a different department at your school in your lab
- There were undergraduate students from other schools in your lab
- There were graduate students available for support
- There were research staff available for support
- There were administrative staff available for support
- You had/have an opportunity to continue research with the REU faculty as an intern or in a paid position when the REU ended/ends
- Other, please specify: _____

25. How much was your total stipend amount for this REU (in USD), not including other paid benefits?

- Less than \$1,000
- \$1,000 - \$2,999
- \$3,000 - \$4,999
- \$5,000 - \$6,999
- \$7,000 - \$8,999
- \$9,000 - \$10,999
- \$11,000 - \$12,999
- \$13,000 - \$14,999
- \$15,000 or more
- I did not receive a stipend [SKIP TO Q27.]

26. How difficult or easy was it to cover your basic expenses with your REU stipend?

- Very difficult
- Somewhat difficult
- Neither difficult nor easy
- Somewhat easy
- Very easy

27. To what extent did your REU give you the opportunity to do the following:

(Not at all; A little; A moderate amount; Quite a bit; A great deal; Don't remember)

- Define a research problem
- Research literature relevant to the project
- Generate hypotheses

- Build a software or hardware artifact, or other computational product
- Use scientific methods to test a hypothesis
- Collaborate with colleagues
- Collect data or conduct experiments
- Analyze data with statistics or other tools
- Interpret results
- Work on open-ended theoretical/mathematical problems
- Plan or develop follow-up work based on results
- Prepare summaries of results for dissemination (in publications or presentations)
- Present my work to other students, faculty or researchers (in a seminar, conference or other venue)
- Mentor other students conducting research or lead a student research team

28. Did you participate in any of the following research activities during your REU? Check all that apply.

- Training on research ethics or institutional review boards
- Writing workshops or seminars (such as proposal or scientific writing)
- Professional development workshops or seminars (for example, interpersonal and communication skills, preparation for graduate school or employment)
- Formal lectures or seminars on topics related to the research project
- Research-related field trip(s) (for example, to other labs, universities, industry)
- None of the above

29. To what degree did you build the following skills during your REU?

(Not at all; Somewhat; Moderately; Quite a bit; A great deal; Don't remember)

- Programming
- Other technical skills
- Research design
- Data collection and analysis
- Scientific writing
- Career development
- Professional communication
- Working effectively with a team

30. To what degree did you learn the following during your REU?

(Not at all; Somewhat; Moderately; Quite a bit; A great deal; Don't remember)

- How to apply to graduate school
- What it's like to be a graduate student
- How to prepare a job application
- What it's like to have a research career

31. To what extent did your REU help you develop relationships with each of the following?

(Not at all; A little; A moderate amount; Quite a bit; Very much)

- People with whom you can discuss professional development questions.
- A strong network of peers to interact with at conferences.
- A strong network of mentors to interact with at conferences.
- People who would be excited to learn about your professional successes.
- People with whom you can discuss issues you are having.

- Mentors with whom you can seek advice and assistance in advancing your career.

32. Overall, how collaborative was your REU experience?

- Not at all collaborative
- A little collaborative
- Moderately collaborative
- Quite collaborative
- Extremely collaborative
- Not applicable – did not work with other students

33. Overall, to what degree did you feel like you were competing with other undergraduates working on the same project or lab during the research process?

- Not at all
- A little
- A moderate amount
- Quite a bit
- Very much
- Not applicable – did not work with other students

34. You may have worked with more than one research advisor during your REU.

Think about the research advisor with whom you spent **the most time** and select that person's position from the list below.

- Your faculty advisor/the PI
- A co-PI
- Postdoc
- Graduate student
- Staff member of your lab
- Other; please specify: _____

35. Which of the following topics were included in the mentoring you received in your REU?

- Applying to grad school (e.g., application process, preparing materials, etc.)
- Life as a graduate student
- Life in a research career
- Work/life balance
- The REU student's future career interests
- Overcoming personal and professional obstacles
- Issues of underrepresentation in computing
- My REU did not include a mentoring component
- None of the above

36. Please indicate the extent to which you agree with each statement below about your primary mentor.
My mentor...

(Not at all true; Slightly true; Moderately true; Quite true; Extremely true)

- was accessible when I needed to speak with them
- demonstrated professional integrity
- demonstrated content expertise in my research area

- was supportive and encouraging
- provided constructive and useful critiques of my work
- was helpful in directing and guiding me on research project issues
- answered my questions satisfactorily (for example, timely, clearly, comprehensively)
- acknowledged my contributions appropriately
- challenged me to extend my abilities

37. How dissatisfied or satisfied were you with the following aspects of your REU?

(Very dissatisfied; Somewhat dissatisfied; Neither dissatisfied nor satisfied; Somewhat satisfied; Very satisfied// Not applicable)

- Orientation activities
- Your access to the resources you needed to do your research
- Support and guidance from faculty and mentors involved in the program.
- Support and guidance from other students involved in the program
- Quality of the interactions with the research group
- Opportunities for professional development
- Group social activities
- Housing arrangements
- Stipend
- Communication about the program

38. How dissatisfied or satisfied were you with your REU experience overall?

(Very dissatisfied; Somewhat dissatisfied; Neither dissatisfied nor satisfied; Somewhat satisfied; Very satisfied)

The following questions ask about your current perceptions of your skills, knowledge, and beliefs about yourself and your education and professional development.

RESEARCH SKILLS AND KNOWLEDGE

39. How would you rate your current skill level in each of the following:

[Poor/Fair/Good/Very good/Excellent]

- Generating hypotheses
- Using scientific methods to test a hypothesis
- Collaborating with colleagues
- Collecting data or conducting experiments
- Analyzing data with statistics or other tools

40. How would you rate your current skill level in each of the following:

[Poor/Fair/Good/Very good/Excellent]

- Summarizing published research results
- Explaining research results
- Writing or co-authoring a research paper or report
- Presenting a research paper or report
- Publishing a research paper or report

SKILLS PROFICIENCY

41. Please rate the degree of your proficiency (how skilled you are) in the following items:

[Highly deficient, deficient, average, proficient, highly proficient]

- Mentoring others
- Building/maintaining a professional network
- Dealing with conflict
- Providing constructive feedback

42. Please rate the degree of your proficiency (how skilled you are) in the following items:

[Highly deficient, deficient, average, proficient, highly proficient]

- Time management
- Speaking clearly and effectively
- Presenting research
- Planning and organizing projects
- Writing scientific papers

43. Please rate the degree of your proficiency (how skilled you are) in the following items:

[Highly deficient, deficient, average, proficient, highly proficient]

- Identifying career options
- Preparing job application materials
- Interviewing techniques
- Preparing your CV/resume
- Preparing graduate school application materials
- Identifying graduate school options

SCIENTIFIC IDENTITY

44. The following questions ask how you think about yourself and your personal identity. We want to understand how much you think that being a scientist is part of who you are.

How true of you is the following statement:

[Not at all true; A little true; Moderately true; Quite true; Extremely true]

- In general, being a scientist is an important part of my self-image.
- I have a strong sense of belonging to the community of scientists.
- Being a scientist is an important reflection of who I am.
- I have come to think of myself as a “scientist.”
- I am a scientist.

BELONGING

45. Please indicate the extent to which you disagree or agree with the following statements:

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

- I see myself as a “computing person”.
- I feel like I “belong” in computing.
- I feel like an outsider in computing.
- Computing is a big part of who I am.
- I feel welcomed in computing.
- I do not have much in common with the other students in my computing classes.

SELF-EFFICACY

46. I am confident that I can...

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

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- pass my computing courses.
- learn the foundations and concepts of computing.
- do well in a computing-related contest (e.g., programming contest, robotics contest, hackathon).
- quickly learn a new programming language on my own.
- contribute to a research project in computing.

47. I am confident that I can...

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

- clearly communicate technical problems and solutions to a range of audiences.
- articulate thoughtful answers to questions about my work during a presentation.
- introduce myself to new peers/colleagues at professional meetings.
- be a capable researcher in computing.
- find employment in an area of computing interest.

48. I am confident that I can...

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

- complete an undergraduate degree in computing.
- get admitted to a graduate computing program.
- be successful in a graduate computing program.

ENTITY BELIEFS

49. Please indicate the extent to which you disagree or agree with the following statements:

[Strongly disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Strongly agree]

- People have a certain amount of ability to learn computing, and they really can't do much to change it.
- Anyone has the ability to learn computing and be good at it.
- Computing comes naturally to some people but not others.
- Not everyone is well-suited for computing.

IMPOSTER SYNDROME

50. In your opinion, to what extent are each of the following statements true of you:

[Not at all true; A little true; Moderately true; Quite true; Extremely true]

- I can give the impression that I'm more competent than I really am.
- When others praise me for something I have accomplished, I am afraid I will not be able to live up to their expectations of me in the future.
- At times, I feel my success has been due to some kind of luck.
- At times, I am disappointed in my present accomplishments and think I should have accomplished much more by now.

MENTOR SUPPORT

51. A **mentor** is someone with whom you have an ongoing relationship, and who provides you with advice and assistance in advancing in your career. To what extent do you have a mentor who....

[Not at all; A little; Somewhat; Quite a bit; Very much]

- helps you improve your computing skills?
- helps you improve your research skills?
- helps you identify or develop your research interests?
- gives you insight into what graduate school is like?
- provides information or advice about applying for graduate school?
- Shows compassion for any issues you discussed with them?

- shares personal experiences as an alternative perspective to your problems?
- explores career options with you?
- encourages you to do the best you can in your coursework?
- supports your research ideas?
- provides constructive feedback?

52. Among the people below, who do you consider to be a mentor? Select all that apply.

- My advisor
- A professor within my department (not my advisor)
- A professor outside of my department
- A Director or administrative faculty
- A graduate student (includes graduate teaching/research assistants and student mentors)
- An undergraduate student (includes undergraduate teaching/research assistants and student mentors)
- Someone I met at a conference or mentoring program sponsored by an outside organization (or other professional activity)
- A family member, partner, friend, religious leader, or someone else with whom I have a personal relationship
- A coworker, supervisor, or someone else with whom I have a professional relationship
- Someone else
- No one

PROFESSIONAL NETWORK AND PEER SUPPORT

53. To what extent is each of the following available to you at this point?

[Not at all; A little; A moderate amount; Quite a bit; Very much]

- People with whom you can ask professional development questions
- People with whom you can discuss graduate school opportunities.
- A strong network of peers to interact with at conferences.
- A strong network of mentors to interact with at conferences.
- People who would be excited to learn about your professional successes.
- People with whom you can discuss issues you are having.

54. How often do you receive the following from **other students**?

{Never; Rarely, Occasionally, Often, All of the time}

- Help and support
- Willingness to listen to issues you are having in your program
- Helpful feedback about your work
- Respect for your work and/or ideas
- Inclusion of your perspective on their work and/or ideas
- Opportunities to collaborate

INTEREST IN COMPUTING RESEARCH

The following questions ask about your interests in and knowledge about future computing research pathways.

55. What is your current level of interest in the following:

[Not at all interested/Slightly interested/Moderately interested/Quite interested/Extremely interested]

- Conducting research as an undergraduate

- Conducting research as a graduate student
- Learning more about computing
- Pursuing a master's degree in a computing field
- Pursuing a doctoral degree in a computing field
- Pursuing a research career
- Pursuing a non-research career
- Mentoring others on a future REU project

56. How likely is it that you will enroll in a terminal master's program in a computing field?

- Not at all likely
- Slightly likely
- Moderately likely
- Quite likely
- Extremely likely

57. How likely is it that you will enroll in a doctoral program in a computing field?

- Not at all likely
- Slightly likely
- Moderately likely
- Quite likely
- Extremely likely

58. How much do you feel you know about the following:

[Nothing, a little, a moderate amount, quite a bit, a lot]

- What to look for in a graduate research advisor
- The research areas you would pursue in graduate school
- What graduate admissions committees look for in an applicant
- How to choose graduate programs that are a good fit for you
- What being a graduate student would be like

59. How much do you feel you know about the following:

[Nothing, a little, a moderate amount, quite a bit, a lot]

- Career options in computing
- Career options in research
- What it would be like to work in academia

HIGHEST DEGREE ASPIRATIONS

60. What is the highest degree you plan to attain?

- High school degree
- Technical certificate
- Associate's degree
- Bachelor's degree
- Graduate certificate
- Master's degree
- Doctoral degree

61. In which field do you intend to earn your highest degree? Select up to 2 responses. Note: If you do not

see your exact field, please select the option(s) most closely related.
[List of fields]

GENERAL JOB INTEREST

62. How interested are you in having the types of jobs listed below?
[Very uninterested; Somewhat uninterested; Neither uninterested nor interested; Somewhat interested; Very interested]
- College or university professor in computing field (**teaching focused**)
 - College or university professor in computing field (**research focused**)
 - K-12 computing teacher
 - Computing researcher in industry
 - Computing researcher in a government lab or agency
 - A non-research computing position in industry (e.g. software engineer)
 - A non-research computing position in government
 - Entrepreneur (computing related; e.g., individual contractor, build a start-up)
 - Non-computing career

SPECIFIC CAREER INTERESTS

63. For your future career, in which setting would you like to work **the most**?

- Academia
- Industry
- Government
- Self-employment
- Something else

64. How likely will your future career have a **computing-related focus**?

- Extremely unlikely
- Somewhat unlikely
- Neither likely nor unlikely
- Somewhat likely
- Extremely likely

65. How likely will your future career have a **research focus**?

- Extremely unlikely
- Somewhat unlikely
- Neither likely nor unlikely
- Somewhat likely
- Extremely likely

PROMPT IF Q1 = "Yes": Finally, please provide the following feedback about your REU experience.

PROMPT IF Q1 = "No": Please the following provide feedback about your REU experience. After that, we request that you complete a final set of demographic questions.

66. If you had the opportunity to make changes to the REU program, what would you suggest?

67. Finally, please use the space below to tell us anything else you would like to share about your REU experience and how it has affected you. This information will help guide future REU program policy.

DEMOGRAPHICS [if Q1 was “No”]

GENDER, RACE

68. What sex were you assigned at birth, on your original birth certificate?

- Male
- Female
- Refused
- Don't know

69. Do you currently describe yourself as male, female or transgender?

- Male
- Female
- Transgender
- None of these

70. Just to confirm, you were assigned [insert from Q68.] at birth and now you describe yourself as [insert from Q69.]. Is that correct?

- Yes
- No
- Refused
- Don't know

71. What is your ethnicity? Select all that apply.

- Not of Hispanic, Latinx, or Spanish origin
- Mexican, Mexican Am., Chicanx
- Puerto Rican
- Cuban
- Another Hispanic, Latinx, or Spanish origin

72. What is your race? Please select all that apply.

- African American/African/Black
- American Indian/Alaska Native
- Arab/Middle Eastern
- Caucasian/European/White
- East Asian (e.g., Chinese, Japanese, Korean)
- Southeast Asian (e.g., Cambodian, Vietnamese, Hmong, Filipino)
- South Asian (e.g., Indian, Pakistani, Nepalese, Sri Lankan)
- Other Asian
- Native Hawaiian/Pacific Islander

VETERAN STATUS

73. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

- Never served in the military
- Only on active duty for training in the Reserves or National Guard
- Now on active duty
- On active duty in the past, but not now

CITIZEN, YEAR BORN, ORIENTATION

74. What is your citizenship status?

- U.S. citizen or permanent resident (includes dual-citizenship)
- Non-U.S. citizen with temporary visa
- Other non-U.S. citizen

75. Which of the following best describes your sexual orientation?

- Heterosexual
- Homosexual
- Bisexual
- Asexual
- Something else
- I don't know

DISABILITY

76. What type of disability do you have? Please check all that apply.

- I do not have a disability
- Attention deficit
- Auditory disability
- Autism spectrum disorder
- Blind or visually impaired (does not include near/far sightedness)
- Health-related disability
- Learning disability
- Mental health disability
- Mobility or orthopedic disability
- Speech or language disorder
- Something else

MARITAL/FAMILY

77. What is your marital status?

- Married/Domestic Partnership
- Divorced/Separated
- Widowed
- Never married

78. Are you a primary caregiver to any **children**? A primary caregiver is the person most responsible for childcare.

- Yes, I am a primary caregiver.
- No, I do not have any children who need caregiving.
- No, my partner/spouse or other family member is the primary caregiver.

- No, I share caregiver responsibility equally with my partner/spouse or other family member.
- 79. Are you a primary caregiver to any **family members** who are not children (e.g., parents, grandparents, spouse)? A primary caregiver is the person most responsible for caregiving.
 - Yes, I am a primary caregiver.
 - No, I do not have any adult family members who need caregiving.
 - No, my partner/spouse or other family member is the primary caregiver.
 - No, I share caregiver responsibility equally with my partner/spouse or other family member.
- 80. What is your best estimate of your family household's total annual income last year? "Family household" income includes yourself and anyone in your immediate family with whom you live.
[List of choices]

PARENTS

- 81. What is the highest level of education attained by any of your parent(s)/guardians?
 - Less than high school
 - High school graduate or G.E.D.
 - Some college (no degree earned)
 - Associate's degree
 - Bachelor's degree
 - Master's degree
 - Doctoral degree
 - I don't know
- 82. Do any of your parent(s)/guardian(s) currently have, or have held, a career related to the following fields: Computer science/Information Technology Engineering Mathematics Any other STEM field
 - Yes
 - No
 - I don't know
- 83. Growing up, what do you think your family's socioeconomic status was?
 - Poor
 - Below average/Lower middle class
 - Average/Middle class
 - Above average/Upper middle class
 - Wealthy
 - I don't know

Thank you for completing this survey!