

Overview of the CREU 2018-2019 Program for Mentors

A Webinar for CREU Mentors 2018-2019

Presenters

Bonita Sharif, University of Nebraska - Lincoln

Daniela Cárdenas, Program Manager, CRA

Verónica Melesse Vergara, CREU Co-Director

**The CREU program is sponsored and
coordinated by CRA-W and IAAMCS**




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LOGISTICS

Quick Start

Event Info

 Record



Audio Conference

(Connected) ✓




Invite & Remind



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 End Event

▼  Participants:1

Speaking: **Melissa Borts (Host)**

▼ **Panelist: 1**

  **Melissa Borts (Host, me)**



▼ **Attendee: 0 (0 displayed)**



▼  Q&A

All(0)

This is the Q&A Box

Select a question, and then type your answer here. There is a 256 character maximum.

Send Privately...

Send



Webinar Overview

- Program Overview
 - CREU Mission
 - CREU Expectations
 - Milestone Timelines
- Best Practices
 - Lessons learned from successful Mentors
- Q&A



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Program Goals

- **CREU Mission:** Increase the number of women and underrepresented groups entering graduate studies in CS
- **Program Structure:** Enables successful student engagement in research:
 - Mentor provides guidance and structure
 - Research stipend frees students from other work
 - Regular reporting helps students stay on track
- **Students will gain:**
 - Real world understanding of research
 - Confidence in their technical abilities
 - Experience working in teams
 - Boosted interest in graduate school
 - Diverse experience to support grad school applications



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CREU Student Expectations

- Students are expected to be actively engaged in research experiences including:
 - Working on a well-scoped and well-defined research problem
 - Using scientific methods to generate and/or test a hypothesis
 - Collaborating with colleagues
 - Collecting data or conducting experiments
 - Analyzing data with statistics or other tools
 - Explaining results
 - Writing or co-authoring a research paper or report
 - Presenting a research paper or report
 - Publishing a research paper or report



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CREU Mentor Expectations

- Mentors are expected to be actively engaged in supporting and monitoring their students' research experience including:
 - Carrying out weekly check ins with each student/team to discuss goals, outcomes, and on going tasks
 - Monitoring students' blogs on a weekly basis, completing blog reports on a monthly basis
 - Encouraging collaboration amongst team members
 - Analyzing data with statistics or other tools
 - Assisting students/team to submit research paper to conferences
 - Reaching out to CREU Co-Directors if additional assistance is needed



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Program Required Reporting

- Program Procedures and Requirements
 - <http://cra.org/cra-w/creu/#financial-support>

| Students | Mentors |
|--|--|
| Weekly Blogs <ul style="list-style-type: none">• Students must keep up-to-date weekly blog detailing:<ul style="list-style-type: none">• Work accomplished including literature review and research methodology• Short and long term research goals• Outcomes | Monthly Blog Updates <ul style="list-style-type: none">• Mentors should closely monitor and guide their students during the research project. |
| Mid-year Report <ul style="list-style-type: none">• Each CREU team will be expected to submit a Mid-year Report | Quarterly Progress Reports <ul style="list-style-type: none">• Update from mentor on state of project and student involvement |
| Final Report <ul style="list-style-type: none">• Each CREU team will be expected to submit a Final Report | Final Report <ul style="list-style-type: none">• Final report from mentor on CREU project and level of student involvement |

Travel and Research Supply Requests

Submit all Requests in Advance of Making Purchases

- Research Experience Related Travel Request
 - CREU participants are able to receive funding for domestic travel for activities directly related to the student's research experience.
 - *Submit Travel Request 3 months prior to the conference event.*
- Research Supply Funding Request
 - CREU participants are able to receive funding for supplies used for CREU research.
 - CREU does not provide reimbursement for general purpose computing equipment such as laptops or iPads.
 - *Submit supply requests prior to purchasing the equipment.*



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How can we help you?

WE WANT YOU AND YOUR STUDENTS TO SUCCEED!

- Reach out to CREU Co-directors and CRA-W staff with questions and requests for assistance: creu@cra.org
- This year, we are using Slack as a platform to communicate with CREU program participants.
 - *We appreciate your active participation. If you do not have access to Slack as well as the #creu2018-2019 channel yet, please contact us.*
 - *We have public #mentors and #students channel as well that you are welcome to use.*
- Flag issues to us as they arise. The earlier we know, the earlier we can find a solution.



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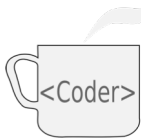

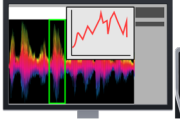
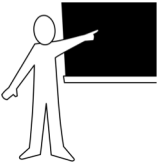


BEST PRACTICES:
Bonita Sharif, University of Nebraska - Lincoln

Project Plan

- Conduct an empirical study on how developers use Stack Overflow.
 - Literature Reviews (picked by mentor initially)
 - Experimental Design (RQ, experiment setup, threats to validity, metrics, analysis)
 - Analysis and Results
 - Informal dissemination
 - GHC Submission
- Connect to a larger research project in the lab.
 - Communicate with other team members on extending and testing code structure
 - Schedule lab for their study
 - Recruit and Schedule participants for their study
 - Conduct study



Student Roles – Mentor Perspective

- Teams with members whose skills complement each other work best   
- All need to learn presentation skills and should present either formally or informally weekly. 
- All need to learn how to use a reference manager (Zotero, bibtex,...) 
- All need to learn writing skills
 - Start a template of the end of year report early and keep adding to it
 - CREU provides a template
- Create an environment conducive to collaboration

Note on Literature Reviews

- Teach students how to perform extended literature searches.
- Teach students how to read and review.
- 1 page write-ups for each paper read
 - Motivation, RQ, Hypothesis, Method, Results, Future Work
- Summary table highlighting key features
- Ask probing questions









Paper Summary Table











| Venue/Year | ID | Author List | Title | Research Question | Method | Results |
|---|-----|---|--|---|---|--|
| 29th International Conference on Software Engineering (ICSE'07) Year: 2007 | [1] | Andrew Ko Robert DeLine Gina Venolia | Information Needs in Collocated Software Development Teams | -What information do developers seek? -Where do they seek this information? -What prevents them from finding information? | -N = 17 -researcher observed participant with handwritten notes as if the researcher was a new employee and needed to job shadow the participant -focused on goal-oriented tasks (e.g. finding a bug rather than key strokes) | -discovered 21 questions developers ask the most important -what coworkers are doing is #1 |
| ICSE'11 Waikiki, Honolulu, HI, USA Year: 2011 | [2] | Christoph Treude Chad Barzilay Margaret-Anne Storey | How Do Programmers Ask and Answer Questions on the Web? | -What kinds of questions are asked on Q&A websites for programmers? -Which questions are answered and which ones remain unanswered? -Who answers questions and why? -How are the best answers selected? -How does a Q&A website contribute to the body of software development knowledge? | -extract questions and answers from Stack Overflow -38,419 Questions -68,467 answers | -Questions: How-to, discrepancy, environment, error, decision help, conceptual, review, non-functional, novice, noise -Answered questions: View, conceptual, and how-to/novice more frequently - |

Basecamp

CREU 17-18

Show discussions sorted by **oldest** and filter by

| | |
|---|--|
|  | Bonita S. do IRB training - * Social and Behavioral Responsible Conduct of Research * Social_& Behavioral_Research_Basic_Refreshers Jun 28, 2017 |
|  | Bonita S. make website and blog - go to google drive. use blogger and create a new blog. add shbonita@gmail.com alinutza@gmail.com Sep 1, 2017 |
|  | Natalie H. view the webinar CREU made - Student webinar https://cra-w.webex.com/cra-w/onstage/q.php?MTID=e051d314691152edf3a3d6295bb74e251 Sep 1, 2017 |
|  | Bonita S. ftp software for mac - cyberduck Sep 8, 2017 |
|  | Natalie H. update website (old creu, remove old reports,...) - • Add a mail tag for names • Project, next line title • Names on main page • Fix order of sources • Remove Sep 15, 2017 |
|  | Natalie H. read Ko paper ICSE07 - Future work, questions, methods, results Sep 15, 2017 |
|  | Natalie H. read the treude paper on SO - Update table Sep 15, 2017 |
|  | Natalie H. prepare tasks - maybe 2 methods and 2 classes per system Sep 29, 2017 |

| | |
|---|---|
|  | Bonita S. write up the workflow for the study - you will use the X-60 tracker for the study. Jan 30 1  |
|  | Sahaj B. add a zip file for android source code - I managed to download only the android v6 source code files but again the files in total exceed 18 GB. Even after compressing Feb 1 3  |
|  | Bonita S. prepare workspace for study - remove comments add task files Feb 13 2  |
|  | Bonita S. choose 4 questions from niiovelli's study to... - 2 good ones 2 bad ones Feb 13 1  |
|  | Bonita S. Think about submitting to VLHCC - "IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2018) "" ""1-4 October, 2018 - Lisbon, Feb 14  |

CREU 17-18

Completed to-dos

| | |
|-------------|---|
| August 10 | Main TODOs ✓ prepare final report ✓ read Li paper ✓ update blog ✓ conduct study -finish by end of april ✓ summarize tasks ✓ create a presentation for quest ✓ prepare the summary of queries |
| March 27 | Main TODOs ✓ Create pre and post questionnaire for part B (questions) ✓ submit a modification to IRB. ✓ submit Sahaj's IRB certificate |
| March 21 | Main TODOs ✓ finalize tasks for part b |
| March 15 | Main TODOs ✓ prepare word file and include the summary for 2 tasks for IRB submission ✓ change the tasks to make the instruction more precise |
| March 13 | Main TODOs ✓ submit to quest ✓ present the niiovelli paper ✓ pilot the study ✓ choose 4 questions from niiovelli's study to read and answer. and prepare survey for it ✓ submit to grace hopper? |
| February 16 | Main TODOs ✓ prepare workspace for study |
| February 13 | Main TODOs ✓ upkeep table of methods and classes ✓ 3 methods and 3 tasks for each system ✓ add a zip file for android source code |
| February 12 | Main TODOs ✓ read Calefato paper ✓ read the treude paper on SO ✓ read Ford paper ✓ rename paper files to correct format ✓ write up the workflow for the study |
| February 5 | Main TODOs ✓ read Ko paper |

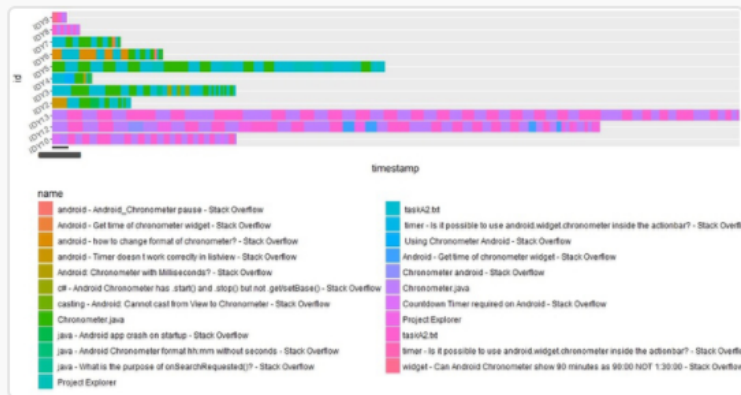
Our local slack

@nmhalavick is it possible to change the colors a bit for the current graph? The colors seem too close together
is that an easy change?



12:44 **Natalie Halavick** Here's the graph. Does this look okay?

Image from iOS ▾



12:45 **Bonita Sharif** colors are better but the graph is fuzzy and blurry
can you make it bigger and then export?

Tuesday, September 18th

07:17 **Natalie Halavick** If you haven't sent the poster, I just updated it. If you already did, it should be fine with the old graph.



Message creu



Recommendations for New Mentors

- Meet with your students every week regardless of progress.
- To-do list with deadlines + Messaging + Document storage.
 - E.g., basecamp + slack + dropbox
- Have students maintain to-do list(s) and volunteer for tasks.
- Brainstorm solutions with students. They need to own the project.
- Monitor blog reports and provide suggestions for improvement.
- Have students understand what it means to check off an item on a to-do list.
- Have students do dry runs on presentations in front of your group.
- Never forget the end goal – preparing your students for grad school.

Questions

Quick Start Event Info

Topic: Test with CERP Record

Audio Conference
(Connected) ✓

Invite & Remind

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End Event

Participants: 1

Speaking: **Melissa Borts (Host)**

Panelist: 1

Melissa Borts (Host, me)

Attendee: 0 (0 displayed)

Q&A

All(0)

Select a question, and then type your answer here. There is a 256 character maximum.

Send Privately... Send


Participants Chat REC ? Settings

Resources

Visit conquer.cra.org for resources for your REU experience

Encourage your students to join the CRA-W mailing list, **CRA-W Updates**, by going to bit.ly/1McQCDd

Follow @CRAWomen to find out about upcoming events or programs




Resources for **faculty** and **undergraduate students** interested in research, graduate school, and research careers in computer science.


HOME FACULTY STUDENTS RESEARCH POSITIONS CONTACT US

Welcome! This site provides resources for **undergraduate students**, interested in research, graduate school, and research careers in computer science. It also provides resources for **faculty mentors**, looking to engage and advise undergraduates in research and prepare them for graduate school in computing fields.

Faculty **Students**

Conquer is a project of CRA-E in collaboration with **CRA**, **CRA-W**, **CCC**, **NCWIT** and **CDC**.





Increasing the success and participation of women in computing research.

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Experience the joy of research for Undergraduates

Enhance your graduate school experience for Graduate Students

Thrive in academia for Faculty

Advance in industry and government research for Researchers

NEWS & ANNOUNCEMENTS

JUNE 28, 2017
Grace Hopper Research Scholars Applications Open!

MAY 23, 2017
2017 BECA Winner Announced – Lydia Tapia

MAY 8, 2017
2017 Scholarship for Women Studying Information Security Award Recipients Announced

APRIL 19, 2017
The Collaborative Research Experience for Undergraduates Application is Now Open!

@CRAWOMEN

RT @women_in_hpc: Poster submissions accepted until 13-Aug for WHPC workshop 12-Nov @supercomputing. Apply NOW! #SC17 @SCInclusivity https://t.co/3fB4Gfy0T3 https://t.co/6R... 6 days ago

RT @women_in_hpc: Dr. Toni Collis' Q&A on her role and hopes for @Supercomputing Inclusivity Chair. https://t.co/3fB4Gfy0T3 https://t.co/6R... 6 days ago

RT @visuals4u: #Scholarships & #travel #grants 4 our #GHC17 are available thru @CRAWomen 4 #students. Apply by 8/15 at https://t.co/ZCJwFfw... 11 days ago

UPCOMING EVENTS

SEPTEMBER 28, 2017
Virtual Undergrad Town Hall: Inferring User Context from Smartphone Data

OCTOBER 4-6, 2017
CRA-W Mentoring Tracks at Grace Hopper Celebration

OCTOBER 27-28, 2017
Indiana Women Celebration in Computing (inWIC 2017)

NOVEMBER 3-4, 2017
Missouri, Iowa, Nebraska, Kansas Women in Computing Conference (MINK WIC 2017)

APRIL 13-14, 2018