

# SELF-STUDY FOR ABIDA MUKARRAM

Sacramento City College/CIS Department

September 14 2023

## I. Response to Recommendations of Previous Review

No recommendations from previous review.

**Commendations:** “Professor Mukarram has shown unwavering support for students both in and out of the classroom. Her work to get the ACM chapter going and to keep the momentum going during remote operations is one example of her on-going commitment to providing opportunities for students to network and find opportunities for internships and full-time jobs”

*“The students, department, division, college, and district are all better for having Professor Mukarram as part of our team”*

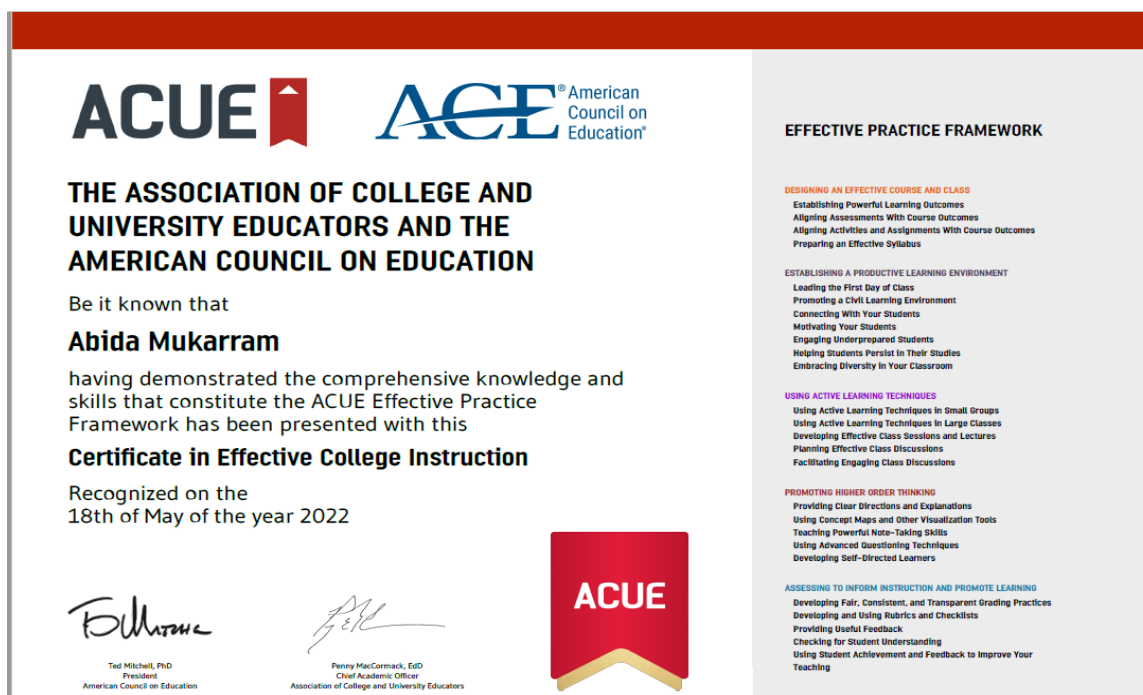
## II. Review Cycle History

- CISC 323 – Linux Operating System
- CISC 324 – Intermediate Linux Operating System
- CISP 360 – Structured Programming in C++
- CISP 400 – Object Oriented Programming in C++
- CISP 400 – Object Oriented Programming in C++
- CISP 430 – Data Structures
- CISP 440 – Discrete Structures

## III. Professional Activities

### Course Certifications, Conference and other Participation

1. ***Earned a certificate*** in effective college education from the prestigious teaching institute ACUE. This was a one-year long program from May 2021 – May 2022.  
**The course consisted of twenty-five modules for online course design on themes based on equity, inclusion, active learning, student centric learning and creating life long learners. Each module was a week in duration. The workload was about 10 hours of work per module. Total of 250 hours of work.**



The course contained the following themes and modules:

#### A. Creating an Inclusive and Supportive Learning Environment

1. Welcoming Students to Online Learning (LE1)
2. Promoting Civil Online Learning Environments (LE2)
3. Ensuring Equitable Access to Online Learning (LE3)
4. Helping Students Persist in Online Learning (LE4)
5. Embracing Diversity in Online Learning (LE5)
6. Checking for Student Understanding in Online Learning (LE6)
7. Providing Useful Feedback for Online Learning (LE7)

#### B. Designing Student-Centered Courses

1. Establishing Powerful Learning Outcomes (DC1)
2. Aligning Assessments with Course Outcomes (DC2)
3. Aligning Activities and Assignments with Course Outcomes (DC3)
4. Developing Fair, Consistent, and Transparent Grading Practices (DC4)
5. Developing and Using Rubrics and Checklists (DC5)
6. Preparing an Effective Syllabus (DC6)

#### C. Promoting Active Learning Online

1. Developing Effective Modules and Micro-lectures (AL1)
2. Teaching Powerful Note-Taking Online (AL2)
3. Using Groups to Ensure Active Online Learning (AL3)
4. Using the Active Learning Cycle in Online Courses (AL4)

5. Planning Effective Online Discussions (AL5)
6. Facilitating Engaging Online Discussions (AL6)

#### **D. Inspiring Inquiry and Preparing Lifelong Learners**

1. Motivating Students Online (LL1)
2. Providing Clear Directions and Explanations in Online Courses (LL2)
3. Integrating Visualization Tools in Online Courses (LL3)
4. Using Data and Feedback to Improve Online Teaching (LL4)
5. Using Advanced Questioning in Online Courses (LL5)
6. Developing Self-Directed Online Learners (LL6)

**2. Participated in the Scholarship of Teaching and Learning conference** at UC Davis Center for Educational Effectiveness, Dec 2021 and Dec 2022. Some of the themes for the talks and discussion sessions were:

- Diversity, Equity & Inclusion
- Research Methods
- Active Learning (student collaboration, student engagement methods)
- Teaching with Technology

*The keynote address was:*

**“What about Educators?: Leveraging Growth Mindset to Cultivate More Inclusive Learning Environments”** *Afiya Fredericks, University of DC*

*Another important talk was:*

**“Support for First-Generation Students in Gateway Classes - When Is Help Most Effective?”** *Joel Ledford, Plant Biology, College of Biological Sciences*

**3. Participated in Open Education Resources workshops** held by the college and [UC Davis Libre Texts](#) for Computer Science curriculum in Fall 22 and Spring 23

**4. Attended the presentation** on Teach Me Videos Topic: One Idea to Rule them All – Retention, Success, Equity, and Rigor: Get to Know Your Student’s and their Abilities with Teach Me Videos by Sacramento City College Professor Andre Bazos

## **Positions of Responsibility**

### **Vice chair – The professional chapter of the ACM, Sacramento 2021- present.**

ACM ([Association of Computing Machinery](#)) the world's largest educational and scientific computing society, delivers resources that advance computing as a science and a profession. ACM provides the computing field's premier Digital Library and serves its

members and the computing profession with leading-edge publications, conferences, and career resources ACM's publications are among the most respected and highly cited in the field because of their longstanding focus on quality and their ability to attract pioneering thought leaders from both academia and industry.

*In my capacity as vice chair, I have helped organize international distinguished speaker programs, future world symposiums, assisted in the formation of high school charters and served as mentor for high school programs and students. A part of my responsibility has been to network with industry e.g. IBM and California Department of Technology to help connect students to industry projects and mentors.*

***This has involved weekly meetings with stakeholders and students to plan, prepare and execute these activities and events,***

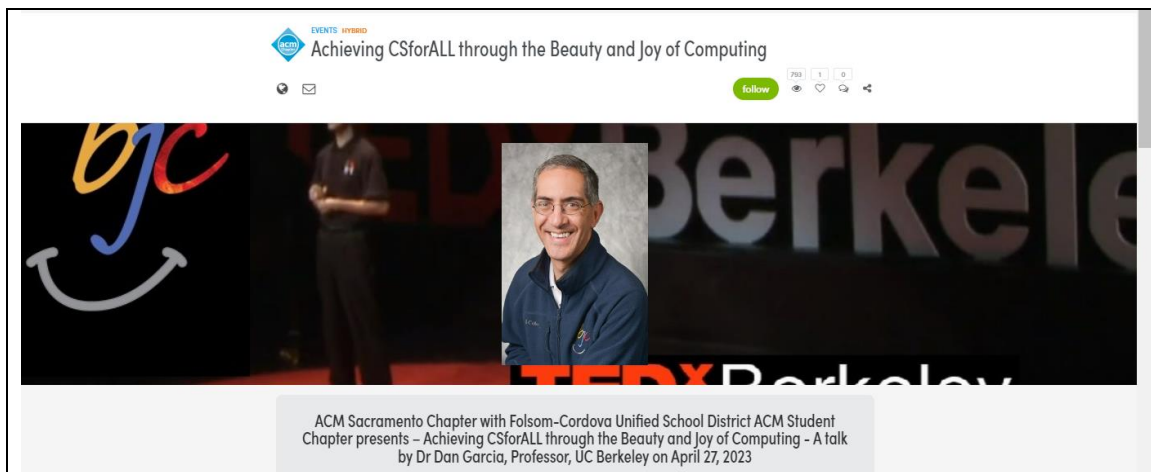
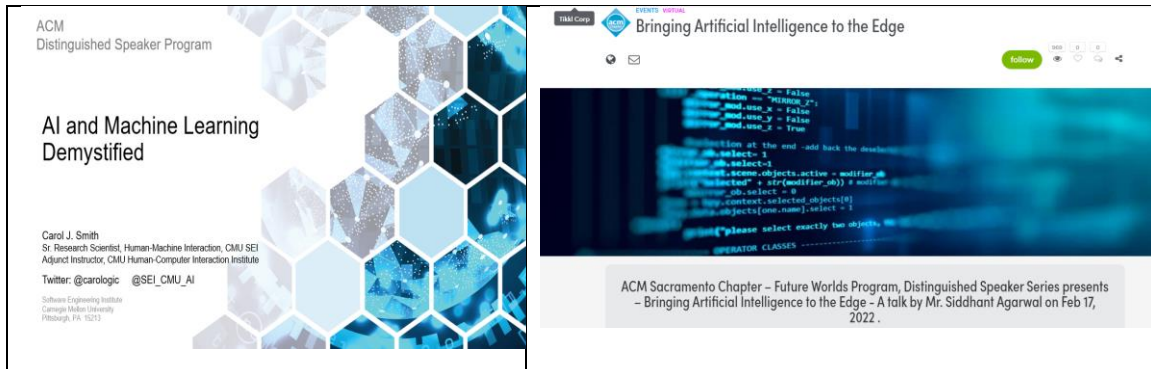
Here is a list of my activities as vice-chair of the professional chapter.

#### Future World Symposiums

- Fourth Future World Symposium Oct 8-9, 2021. [Talks included topics on intelligent systems, erasing unconscious bias from AI datasets and digital transformation for government.](#)
- Fifth Future World Symposium Oct 7-8, 2022. [Talks and workshops included topics on Software engineering in a post AI and post Quantum world, Driving the future, creating an effective AI ecosystem](#)

#### Distinguished Speaker Presentations:

- AI and Machine Learning Demystified – June 23<sup>rd</sup> 2022, by Carol J Smith, [Senior Research Scientist in Human-Machine Interaction at Carnegie Mellon University's Software Engineering Institute.](#)
- Bringing AI to the Edge – Feb 17<sup>th</sup> 2022, by Siddhant Agarwal, [Program Coordinator, Developer Relations, Google, India.](#)
- CS For All – April 17<sup>th</sup> 2023, Dan Garcia, [Teaching Professor in the EECS Department at UC Berkeley. He is an ACM Distinguished Educator and ACM Distinguished Speaker.](#)



### **Founder and Chair – the student chapter of the ACM, Los Rios, 2018- present**

ACM's Professional and Student chapters worldwide serve as hubs of activity for ACM members and the computing community at large. They provide seminars, lectures, learning forums and networking opportunities with peers and experts across the computing spectrum.

Our student charter has been active since 2018 and has served hundreds of students since by providing on campus speaker events, day long hackathons, two day long mega events and skill building workshops sponsored by California Department of Technology and their vendors like IBM and others. In 2020, our student activities moved online to provide activities and support including social and professional networking. For our students who work, have family commitments or are remotely located, and take classes across multiple campuses in the college district, the ACM student charter has continued to provide channels that host tech talks, hackathons, watch parties, book clubs, coding practice, research opportunities, data science tracks and internship skill building and posts.

Providing inclusive and support to our diverse student population has been a primary focus and Hispanic and Black students, first generation college students, female students

have all been able to get an opportunity to access free support and resources for technical skill building, leadership and team skills, connecting to internship and job opportunities and be part of a world-wide professional community. These students have additionally benefited from being better prepared for transfer to four-year colleges and for the workplace in emerging technologies of computer science.

In the past three years, these activities have involved extensive investment in building student leadership, planning, preparing, promoting and executing programs that connect computer science students to the real world of academia and industry.

<p><a href="#">YouTube Promotion</a></p>	

Some of our students were able to secure voluntary internship positions at a Smart City project with a local company *Glocol Networks*





● ● ● ● ● SMART CITIES ARE INTERCONNECTING ALL OF US WITH ONE ANOTHER

#### Glocol Networks



#### Internet of Things



#### Smart-City Platform



#### Glocol Smart City Fabric

A

**Connected Vehicles**  
V2V allows vehicles to exchange safety information. Glocol V2I Framework allows infrastructure to communicate with vehicles.

B

**Cross Walk Networks**  
Glocol provides the fabric for modular solution set for smart transportation and

These students have gone on to transfer to four-year institutions like UC Berkeley, Cal Poly and secure internships with Amazon.

Commendation for ACM from Interim Associate VPI Deborah Saks



Saks, Deborah

To: Hodge, Rick

Cc: Mukarram, Abida

Rick,

Here's the information about City Hacks that I mentioned. Abida has done a tremendous job over the last five years of implementing this project, shifting it to online, and creating lots of excitement about it.

Deborah

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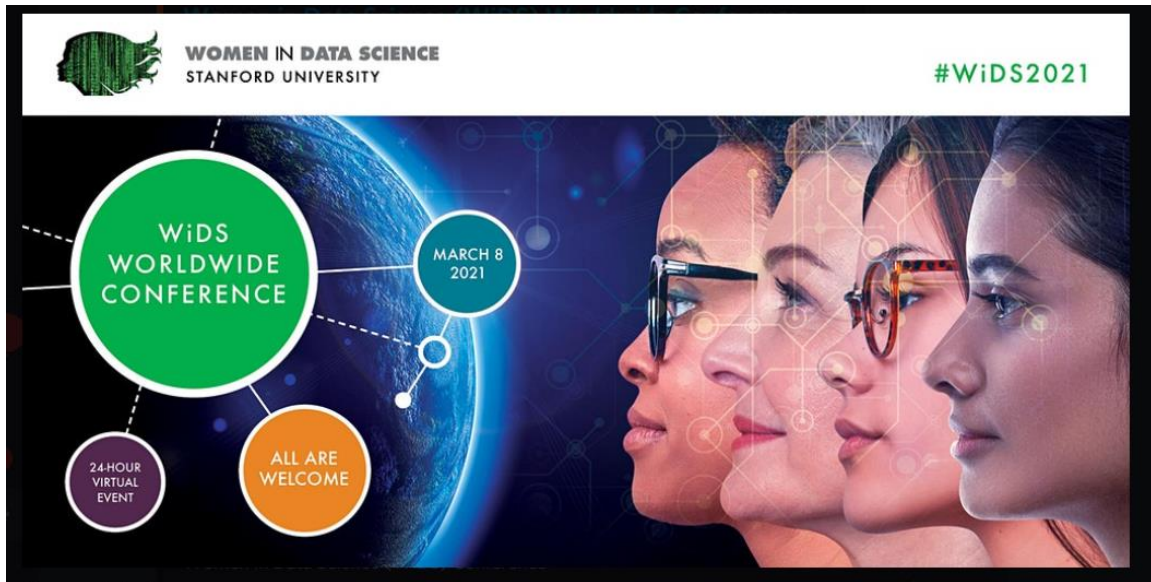



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### **Ambassador for Women in Data Science Jan 2021-March 22.**

Mentored women students to coordinate with the Stanford Women in Data Science to host a datathon in Jan 2022



## WOMEN IN DATA SCIENCE SACRAMENTO

Welcome to the official website to register for the Women in Data Science (WiDS) Datathon hosted by the ACM Los Rios Community College Chapter! This is where you will sign up to participate in the WiDS Datathon Workshop, which will be held on January 28th, 2022.

The WiDS Sacramento Datathon Workshop is an independent event organized by the Los Rios ACM to coincide with the annual Women in Data Science (WiDS) Datathon. Participants can be of any gender, and can be students, faculty, government workers, members of NGOs, or industry members.

The workshop is focused on learning and collaboration rather than competition. We invite participants from all levels of proficiency with data science and will separate complete beginners from those with more experience during the workshop, with different training for each level.



**KUMOSPACE**

## WiDS Sacramento (Lobby)

Join a Floor below



## IV. Service

*In the area of service to the department, college and community:*

1. I have served on the following college-wide committees
  - The Staff Development committee
  - The Scholarship committee
  - The Staff Equity and Diversity Committee.
2. I have served on the following department wide committees
  - Hiring Committee for full time faculty recruitment Spring 2022
  - Hiring Committee for adjunct faculty recruitment Fall 2023
3. Served as evaluator for the following full-time faculty members
  - Professor Gideon Marsh – Fall 2022
  - Professor Bryan Krofchok – Fall 2021
4. Served as evaluator for the following part-time faculty members
  - Professor Bashar AlHilfi -Spring 2023
  - Professor Lewis Bair –Spring 2022
5. Served as Mentor for course design and content development for
  - Professor Kevin Tse: CISP 357 Introduction to Data Science (9 Meetings) – Spring and Summer 2023. The instructor was new to data science, teaching pedagogy and preferred to use Python. This mentoring involved procuring technical material, designing content and layout from scratch and closely assisting with the course development.
  - Professor Saroj Bardewa: CISP 301 (9 meetings) – Spring and Summer Spring 2023. The instructor needed guidance with course design and pedagogical frameworks and refinements.

*The above mentorships involved bimonthly meetings to review, discuss and provide feedback as well as additional time to curate and prepare resources and view progress outside of meetings.*

6. Served as Mentor for course design, content development and program alignment for Professor Fernando Cantillo CISP 360 (regular meetings) – Spring 2021 and Summer 2021. *Professor Cantillo's Canvas online shells were redesigned to reflect SLO in Socrates and OEI standards and rubrics.*

**This was an important project for the following reasons:**

In order to **address a learning gap**, and **align** some of the courses in the programming pathway namely CISP301, CISP360, CISP400 and CISP430, I worked with Professor Fernando Cantillo for two semesters on two things. Firstly, to support his course design so as to be aligned with the OEI Rubric. Secondly, to create and design content that meets the CISP360 outcomes and aligns with the 4-unit CISP301. This was an important effort since CISP301 is a prerequisite of CISP360 and is offered only at Sacramento City College. Students from other colleges where CISP301 is not offered are allowed to enroll in CISP360. Some of these students coming in from other Losrios colleges may have taken CISP300 (which is a 3-unit course without a lab component). This creates a learning gap which stands in the way of student success in CISP360. Addressing the learning gap by diluting the content of CISP360 does enable better student success but has the repercussion of compromising some of the outcomes and rigor of CISP360.

*With the CISP360 foundations in place, I have redesigned the CISP400 and the next level course CISP430 so that this pathway of programming course stands aligned.*

*This gives students a smoother transition along the programming pathway and ensures that upon their transfer to four-year colleges, they are equipped with skills that they are expected to have.*

*"This project was a collaboration between Professor Abida Mukarram and district Canvas support"- Professor Cantillo*

7. Welcome meeting in summer 2022 with new Professors Gideon Marsh. Provided an Overview of Socrates, Courses, New Faculty Program, Evaluation forms and procedures to Professor Marsh and invited him to join in ACM. I extended an offer to help him over the summer with course design and content development. This was a welcome and support meeting in the summer for Professor Marsh who was new to the department.
8. Welcome meeting in summer 2022 with Professor Claudio Cisneros. This was a welcome meeting and some experience sharing regarding programs for student success.

9. Wrote an instructional “how to” document on *the online Discord networking platform*). This was done during the covid pandemic when support with online tools was much needed
10. Serve as mentor for high school students to support their preparation for success in college. Gave an invited talk in the hybrid modality as a special guest to high school students.
11. Invited as panel speaker by Sac City College STEMinar Panel to speak on Diversity in technology Spring 2023. Advised Sac City College students on equity, diversity, challenges and opportunities in the computer science workspace

Dv

**Diversity in Technology  
STEMinar Panel**

Thursday, March 9, 12-1pm

Curious about careers in technology? Join us for our next STEMinar panel to hear about amazing opportunities in cybersecurity networking and computer science.

Click here for the zoom link  
or use <https://lrccd.zoom.us/j/81837093390>

Andrew Holston  
Security and IT  
Network Engineer

Abida Mukarram  
Professor of Computer  
Science

Haily Holston ✉ [W1930857@apps.losrios.edu](mailto:W1930857@apps.losrios.edu)  
Dr. Nana Ngassam ✉ [NgassaV@scc.losrios.edu](mailto:NgassaV@scc.losrios.edu)

12. Supported the efforts of the Global Studies Program at Sacramento City College by attending event to celebrate talents of local refugee high schooler
13. Worked on a 21-day anti-racism habit building challenge by
  - listening to Abram Kendi podcasts on Anti-Racism
  - watched film - [First Generation Story](#)
  - read book “*Stuck in the Shallow Sand- Education Race and Computing*” by J. Margolis
  - read [BBC Article-Battalion Six Triple Eight Battalion of Black Women](#)
  - read article [The Striver – First Generation LatinX student](#)
14. Attended ICT Advisory events
15. Participated in the STEMinar series at Sacramento City College Spring 2023
16. During summer 2022 coordinated and attended meetings with VP Rick Hodge, Interim VPI Dean Saks and Interim Dean Sandra Camarena on hosting a one-day

Microsoft AI event. Attended follow up meetings with Microsoft and Rick in July/Aug 2022

17. Participated in Two workshops on Results-based Instructional Data Analysis and discussed how to make data informed decisions to promote equitable outcomes - conducted by Dean Tiffany Ho and Valery Ngassam – Spring 2023
18. Mentored women students from unrepresented minorities during Summer 2022 and Fall2022 with a data science project that involved assessing and improving state-run childcare facilities. This involved bi-monthly meetings during the summer and fall semester,
19. Created and shared a “How to video for Canvas Rubrics”. Complimentary message to colleagues from Sandra Camarena:

Hello colleagues,

The following message is for those of you who have already created grading rubrics on Canvas.

***Do your students know how to access these grading rubrics prior to completing their discussion postings?***

I write to share the html code for an announcement you can post in your Canvas classes sharing a step-by-step video on how to access the grading rubrics. ***Thank you to Abida Mukarram for sharing this video with me.***

Unfortunately, there is no easy way for me to allow you to preview this message. If you are interested, paste the following html code into a Canvas announcement and preview its content before posting the announcement. Copy the text as it appears after the line of asterisks.

Onward!  
Sandra

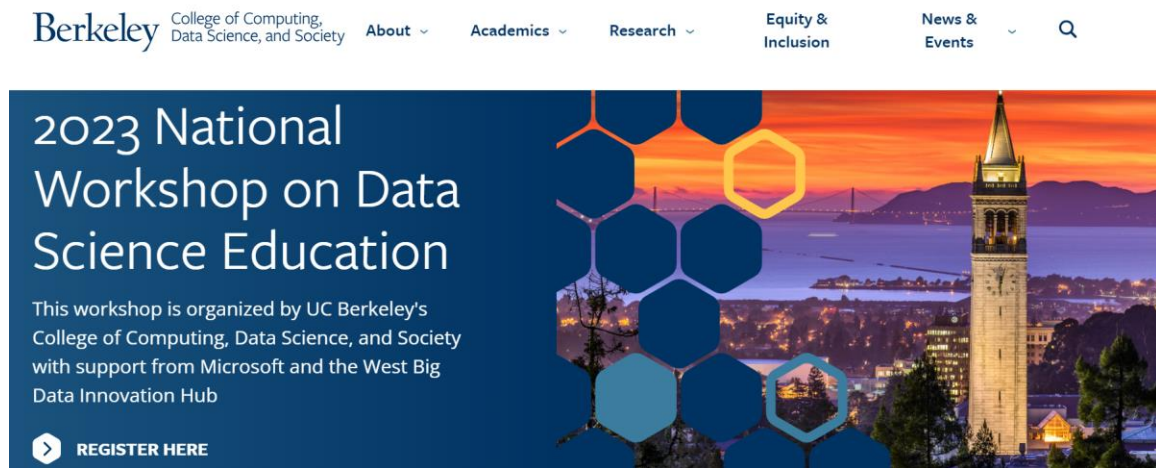


## V) Efforts Taken to Stay Current in your field.

### Workshops Attended:

#### 1. *University of California Berkeley National Workshop on Data Science Education*

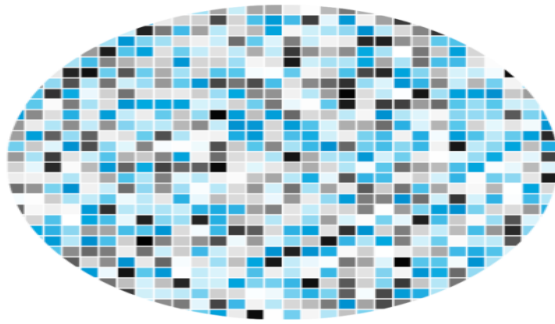
June 2023: The purpose of this four day [workshop](#) is to bring together community college and four year institutions to provide resources, support and connections to develop and serve the data science pathway transfer programs. A primary goal is to demonstrate **equity and inclusion** in disseminating and teaching data science and include principles of justice and ethics.



#### 2. *Harvard University Institute of Applied Computational Data Science Pedagogy*

Workshop Jan 2021. This is a week-long data science pedagogy workshop for educators of **underrepresented or underserved** college students in data science.

### Data Science Pedagogy Winter Workshop






THIS PROJECT IS MAINTAINED BY [onefishy](#)  
**IACS** Institute for Applied  
Computational Science



The goals of the workshop are to:

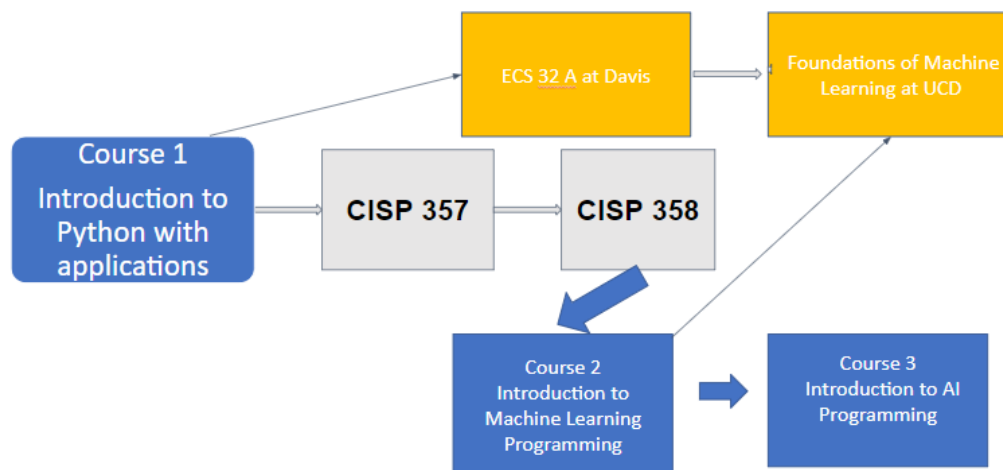
- help educators build sound foundations in data science
- expose data science educators to “state-of-the-art” methodologies and tools in data science
- facilitate a supportive environment for educators to develop data science pedagogical materials that are customized to the needs of their own students
- to provide free resources and support to create tools that provide equity and inclusion in underrepresented minority institutions

3. ***Second Annual Community College Data Science conference*** May 2022. This day-long conference is organized by current and former community college students to help educate community college students about the broad areas of learning and opportunities in artificial intelligence and data science and connect them to programs and resources in data science education in an equitable manner:

 <p><b>2nd Annual Community College Data Science Conference</b></p> <p>Co-Sponsored By</p> <div></div> <p><small>Data Science Undergraduate Studies of UC Berkeley    Student Senate for California Community Colleges (SSCCC)</small></p>	<p>It will be on Saturday, May 14th, from 10:00 to 2:00 p.m. PDT. I would like to encourage you to</p> <p>Please visit the <a href="#">conference website</a> to register for this ZOOM conference.</p> <p><b>2nd Annual Community College Data Science Conference</b></p> <p>Featuring Data Scientists from:</p> <div></div> <div></div> <p>Free event. All community college students welcome!</p> <p>Please reach out to me or to <a href="mailto:questions@datascienceconference.cc">questions@datascienceconference.cc</a> for any questions you may have</p> <p>Thank you very much.</p> <p>Cordially, Rom Arca</p>
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## IV) Efforts Taken to Stay Current in your Assignment

- Designed and developed CISP430 Spring 2022.  
This was necessary as the course was denied articulation by UC Davis. I rewrote the Course Outline of Record and redesigned the course and created the required content.
- Redesigned CISP440 Spring 2021 along the OEI guidelines. This was about 60-70 hours of work. All courses are now aligned with regard to course design.
- Working with Dr. Kandace Knudson on innovative best practices for course navigation that align with Universal Design requirements,
- Close captioning done for all videos including curated for CISP430 and CISP440 courses Jan-Feb 2022
- Created additional quizzes for CISP400 to deepen connection to video instruction
- Created assignment and lab support videos and templates for CISP400.
- Added mid semester and end of semester surveys for all classes
- New welcome video for Fall classes
- Designed Equity based syllabi for CISP 400, CISP323 and 324 for Fall 2023  
As artifacts of practice, syllabi can be tools for equity minded practice for first generation/racially/ethnically minoritized students. In particular, syllabi can be used to *demystify* the implicit norms and ambiguous processes that characterize how to be a “success”. Syllabi can welcome students and *validate* their pursuit of a college degree. They can send a message that faculty are there to support and work in *partnership* with them. Syllabi can also *affirm* the belonging these categories of students by representing their experiences in the syllabus and course materials  
This equity-based redesign was done using the framework of *demystifying, welcoming, validating, representing and creating a partnership*.
- Designed pathways and courses for creating, updating and articulating our college courses to the new Data Science and Machine Learning courses at our transfer institutions like UC Davis and UC Berkeley. This effort took extensive and extended work in Spring and Summer 2022.



## VI) Future Directions

### *Assessment:*

- Curious, dynamic, self-directed, motivated professional committed to modeling growth mindset for my students and myself.
- Hugely invested in high ambitions for departmental and student success.
- Interested in exploring new tools and new pedagogies to support online learning and success for our students
- Deeply invested in mentoring and promoting growth of colleagues
- Team player invested in collaboration and team success build on trust and mutual respect
- Ability to create and sustain cutting edge programs that are comparable to other leading community colleges to help longevity and success of our division and department
- Strongly interested in providing equitable low and zero cost resources in the classroom and other out of classroom opportunities to first generation and underrepresented students.

### *Goals:*

- Continue creating, refining, updating and articulating coursework in current and emerging technologies to provide equitable access to these materials to first generation and underrepresented minority students to help support their inclusion in these areas of maximum job opportunities.

- Continue exploring pedagogies including constructivist models, platforms and technology for creating a successful computer science learning experience in the online modality to support success for our diverse student population.
- Continue teaching practice of experiential learning and active learning by using the ACM platform to connect the classroom to the real world and promote workplace skill building to students to help enter a competitive job market
- Continue working on course design of fully online courses to obtain OEI certification for one class in the next two or three years.

## VII) Acknowledgements

### **Mentor and Interim Dean: Sandra Camarena**

Regular meetings with Sandra over the past years have helped shape my teaching philosophy, so many aspects of my online course design, and helped set goals for further enhancements to my online courses.

Her dedication to promoting excellence for herself and for the division are inspiring. Her commitment and contribution to my success has been exemplary.

**Interim Associate VPI Deb Saks:** I am grateful for Debs vision and leadership. The time and effort that she has invested into personally supporting me at every juncture has been immeasurable

**Reviewers: Bryan Krofchok and Brian Pogue:** Bryan Krofchok has been an amazing and supportive colleague since I joined Sacramento City College. In fact, he has served on my review team during my tenure track process and reviewed the CISP400 course. I am grateful for his input and his expertise in curriculum which helps us immensely in our course design.

Brian Pogue has been an excellent support in my online teaching journey and a wonderful colleague. He has provided valuable insights and quick and easy solutions to what seem like challenging technical situations. I would like to thank him for his approachability, sincerity, kindness and supportive response on all occasions.

## VIII) Attachments

- Course syllabi (CISP 400, CISP 400 Hybrid, CISC 323, CISC 324)

- Commendations from Instructor Mentees
- Diversity and Equity Statement
- Course Walkthrough Statement
- Feedback from Students