Emilie Menard Barnard

PROGRAM MANAGER & COMPUTER SCIENCE EDUCATOR IN SEATTLE, WA

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Education

M.S. in Computer Science
4.0 GPA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF ENGINEERING

Santa Barbara, CA

June 2016

B.S. in Computer Science
with Honors Program Designation

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF ENGINEERING

June 2013

B.A. in Mathematics
with Honors

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF LETTERS & SCIENCE

June 2013

Experience

Program Manager II
Regional Manager & Specialist, Pacific Northwest (PNW)

MICROSOFT PHILANTHROPIES TEALS PROGRAM VIA TEKSYSTEMS

Redmond, WA

April 2019 - Present

(Promoted from Regional Manager to Regional Manager & Specialist in Sept. 2020)
- Recruit and manage relationships with ~130 technical volunteers
  - Recruit, interview, and place volunteers with high schools across the region
  - Develop regional pool of engineering volunteers, in part by representing the program at companies, conferences, and external events
  - Ensure volunteers have a great experience with the program
  - Maintain a year-to-year volunteer retention rate of 61% (compared to a program-wide rate of 40.5%)
  - Help the broader PNW team manage ongoing relationships with ~600 technical volunteers
- Manage relationships with ~30 high schools across the region
  - Recruit, interview, and successfully onboard partner schools
  - Support diversity, equity, and inclusion goals in partner schools
  - Provide support to classroom teachers to build capacity to teach computer science
  - Build relationships with school district administrators, school principals, counselors, and other school personnel
  - Help the broader PNW team manage relationships with ~100 high schools across the region
- Train and mentor technical volunteers and classroom teachers
  - Train and support volunteers as they learn and develop pedagogical skills
  - Train and support classroom teachers as they learn and develop computer science and programming skills
- Manage and implement the program across the region in accordance with programmatic guidelines
  - Build regional computer science community among students, schools, volunteers, and partners
  - Build and maintain relationships with key stakeholders from the regional educational community, plus corporate, government, and other organizations
  - Plan, manage, and host quarterly (virtual, and in-person in the past) events for volunteers and classroom teachers
  - Perform other program management and operational tasks as needed
- As a Regional Manager & Specialist, I also:
  - Manage program-wide projects such as internal curriculum training and diversity, equity, and inclusion efforts
  - Assist leadership in providing training and onboarding support for internal staff
  - Foster and maintain relationships with external program partners

Adjunct Professor

NORTH SEATTLE COLLEGE COMPUTER SCIENCE DEPARTMENT
SEATTLE COLLEGES

Sept 2018 - Present

- Organize and teach introductory computer science courses for a diverse set of learners
  - Prepare and host class and lab meetings
  - Foster a learning environment inclusive of the diverse student population
  - Create curriculum (including but not limited to: in-class activities, homework quizzes, interactive lab assignments, programming assignments, and exams) that meets district-wide course and regional transfer requirements and encourages active participation
  - Assess students' academic performance
  - Host office hours
- Work effectively with students, colleagues, and staff in a campus climate that promotes cultural diversity and multicultural understanding in an urban environment
- Participate in division-wide mentorship activities

Adjunct Professor

Los Altos Hills, CA

FOOTHILL COMPUTER SCIENCE DEPARTMENT
FOOTHILL DE-ANZA COMMUNITY COLLEGE DISTRICT

Aug 2017 - June 2018

Lead Instructor

Sunnyvale, CA

GIRLS WHO CODE

May 2017 - Aug 2017

- Led the GWC summer program classroom at Amazon Lab126
  - Led instruction and maintained an engaging and accessible classroom environment for a diverse group of 20 high school girls
  - Adjusted existing curriculum (including but not limited to: in-class activities and projects) to reflect the interests of my students
  - Created curriculum (including but not limited to: in-class activities and projects) for application-based topics
  - Managed and assessed students' progress in and proficiency of hard and soft computer science skills
  - Managed Teaching Assistants

Lecturer in Computer Science

Santa Barbara, CA

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

June 2016 - Aug 2016

- Taught two lectures of UCSB's undergraduate introductory computer science course during summer sessions
  - Created curriculum (including but not limited to: lectures, lab assignments, programming assignments, and exams) that met UC-wide standards
  - Managed Teaching Assistants
  - Hosted office hours

Lead Teaching Assistant for *Introduction to Computer Science* Course

Santa Barbara, CA

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Oct 2014 - June 2016

- Assisted various professors in teaching UCSB's undergraduate introductory computer science course
  - Led weekly programming labs
  - Improved existing lab curriculum
  - Hosted office hours
  - Managed other Teaching Assistants
  - Designed and hosted lectures in support of full-time faculty
- Participated in mentorship activities

Computer Science and Mathematics Instructor

Santa Barbara, CA

CAMPUS LEARNING ASSISTANCE SERVICES (CLAS)
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Sept 2013 - June 2014

- Led tutorial groups for students enrolled in *Calculus for Social & Life Sciences*
- Designed curriculum that complemented lecture content
- Privately tutored students in mathematics and computer science courses

Organizations

Computer Science Industry Representative *White Swan, WA*

STEM & CTE General Advisory Councils
Issaquah School District, Mount Adams School District *Sept 2019 - Present*

- For each district, meet quarterly with other GAC members and school leaders to discuss and improve the district's CTE pathways

Graduate Student Cabinet Member *Santa Barbara, CA*

Computer Science Department
Univeristy of California, Santa Barbara *Oct 2015 - June 2016*

- Nominated by faculty to represent graduate students in the department
- Met montly with the chair and other student cabinet members to discuss departmental changes

Undergraduate Curriculum Committee Member *Santa Barbara, CA*

Computer Science Department
Univeristy of California, Santa Barbara *Oct 2014 - June 2016*

- Met bi-weekly with faculty and staff members of the committee
- Monitored and proposed changes to the undergraduate curriculum
- Developed policies for ensuring a healthy level of undergraduate enrollment in the department

Graduate Student Representative *Santa Barbara, CA*

Computer Science Department
Univeristy of California, Santa Barbara *Oct 2014 - June 2016*

- Elected by the student body to represent graduate students in the department
- Met monthly with other representatives to ensure that graduate student views were considered
- Organized and hosted events for graduate students

Women in Software and Hardware, Outreach Manager and Buddy Program Chair *Santa Barbara, CA*

Computer Science Department
Univeristy of California, Santa Barbara *Sept. 2012 - June 2013*

- Managed a mentorship service by pairing lowerdivision with upperdivision women in STEM
- Built and maintained replationships with local companies to support the club and enagage more students

Honors & Awards

Distinguished Teaching Assistant *Santa Barbara, California*

Computer Science Department
University of California, Santa Barbara *June 2015*

Received for my work during the 2014-2015 school year. The purpose of the award is to "recognize those teaching assistants who went above and beyond to support our students and faculty" and "demonstrated this excellence again and again."

Graduate Student Association Excellence in Teaching Award (Nominee) *Santa Barbara, California*

University of California, Santa Barbara *2015, 2016*

This campus-wide award recognizes the dedication of graduate students who have shown excellence and have gone above and beyond in their roles as teachers.

Women in Science and Technology Award Winner *Nationwide*

Visionary Integration Professionals *2012*

The nationwide competition awards support for 10 women seeking a career in computer science, information technology, or other applicable fields.

Other awards:

- Chancellor's Scholarship Award Winner, University of California, Santa Barbara
- Sam Walton Community Scholarship Award Winner, Walmart
- South Coast Business & Technology Award Winner, South Coast Business & Technology

Projects & Research

Purposeful Plans for Computer Science Diversity, Equity, and Inclusion

LINK TO WORKSHOP ABSTRACT *2021*

During this ACM SIGCSE workshop, participants were supported through discussions that focus on specific areas of diversity, equity, and inclusion. Participants left the session with a purposeful plan inspired by new allies and frameworks from the Microsoft Philanthropies TEALS Program to address these issues within their own classrooms.

TEALS's Plans for Addressing Social Justice in Computer Science Education: Creating Inclusive CS Communities

LINK TO PRESENTATION ABSTRACT *2021*

This ACM SIGCSE lightning talk covered Microsoft Philanthropies TEALS Program's efforts in mitigating the disparity of access and participation of Black and Africian American students in high school computer science classes.

Twisted Edwards Curves in Elliptic Curve Cryptography

LINK TO PAPER *2015*

This tutorial introduces Twisted Edwards Curves and relates them to Edwards Curves and Montgomery Curves. It covers projective and other coordinate systems for Twisted Edwards Curves and discusses their application within the Edwards-Curve Digital Signature Algorithm.

Cellular Automata Encryption Generator

EMILIE.CODES/PROJECTS/CA/ *2013*

This cellular automata encryption generator allows users to learn about CA encryption techniques in a visual manner. It allows the user to input any CA rule (mod 256) and set output preferences.

Awesome Library

PCONRAD.GITHUB.IO/AWESOMEPRELIMS/ *2013*

The idea of this discrete math library is to allow students to self-study various problems related to discrete math, such as set operations and relation classification. I created a 64-bit JavaScript number library which was used to automate question generation.

More projects can be found on my GitHub page.