

Emilie Menard Barnard

COMPUTER SCIENCE EDUCATOR IN SEATTLE, WA

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Education

M.S. in Computer Science

4.0 GPA

Santa Barbara, CA

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF ENGINEERING

June 2016

- Languages used: Java, Python, HTML, CSS, JavaScript, \LaTeX

B.S. in Computer Science

with Honors Program Designation

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF ENGINEERING

June 2013

- Languages used: Python, C, C++, Assembly, Java, Matlab, HTML, CSS, JavaScript

B.A. in Mathematics

with Honors

UNIVERSITY OF CALIFORNIA, SANTA BARBARA
COLLEGE OF LETTERS & SCIENCE

June 2013

- Languages used: Matlab, Wolfram Mathematica

Experience

Regional Manager & Specialist, Pacific Northwest (PNW)

Redmond, WA

MICROSOFT PHILANTHROPIES TEALS PROGRAM
TEKSYSTEMS

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
 - Help the broader PNW team manage relationships with ~400 technical volunteers
- Manage relationships with ~30 high schools across the region
 - Recruit, interview, and successfully onboard partner schools
 - Drive student enrollment and diversity 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 ~110 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 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
 - Perform other program management and operational tasks as needed
- As a Regional Manager & Specialist, I also:
 - Lead larger-scale regional relationships and efforts
 - Assist leadership in providing training and support
 - Take on key additional projects in support of the Regional Manager lead

Adjunct Professor

Seattle, WA

NORTH SEATTLE COLLEGE COMPUTER SCIENCE DEPARTMENT
SEATTLE COLLEGES

Sept 2018 - June 2019

- Organized and taught introductory computer science courses
 - Prepared and hosted class and lab meetings
 - Fostered a learning environment that respects the diverse student population
 - Created 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
 - Assessed students' academic performance
 - Hosted office hours
- Worked effectively with students, colleagues, and staff in a campus climate that promotes cultural diversity and multicultural understanding in an urban environment
- Languages taught: Python

Adjunct Professor

Los Altos Hills, CA

FOOTHILL COMPUTER SCIENCE DEPARTMENT
FOOTHILL DE-ANZA COMMUNITY COLLEGE DISTRICT

Aug 2017 - June 2018

- Organized and taught introductory computer science courses
 - Prepared and hosted class meetings
 - Fostered a learning environment that respects the diverse student population
 - Created curriculum (including but not limited to: in-class activities, homework quizzes, programming assignments, and exams) that met district-wide course requirements and encouraged active participation
 - Assessed students' academic performance
 - Hosted office hours
- Participated in mentorship activities
- Languages taught: Python

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
- Languages taught: Scratch, HTML, CSS, JavaScript, Python

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
- Languages taught: Python

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 on occasion
- Participated in mentorship activities
- Languages taught: Python

Computer Science and Mathematics Instructor

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

Santa Barbara, CA

Sept 2013 - June 2014

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

Reader

MATHEMATICS DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Santa Barbara, CA

Sept 2012 - June 2013

- Graded biweekly homework assignments for *Non-Euclidean Geometry* and discrete mathematics courses

Organizations

PAC Computer Science Industry Representative

STEM & CTE PATHWAY ADVISORY COUNCIL
ISSAQUAH SCHOOL DISTRICT

Issaquah, WA

Sept 2019 - Present

- Meet quarterly with other PAC members and school leaders to discuss and improve the district's STEM pathways

GAC STEM & CTE Representative

GENERAL ADVISORY COUNCIL
ISSAQUAH SCHOOL DISTRICT

Issaquah, WA

Sept 2019 - Present

- Meet quarterly with other GAC members and school leaders to discuss general improvements for the district

Graduate Student Cabinet Member

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Santa Barbara, CA

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

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Santa Barbara, CA

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

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Santa Barbara, CA

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

COMPUTER SCIENCE DEPARTMENT
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Santa Barbara, CA

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 engage 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

Python Pet

PYTHONPET.COM

Present

A Python-powered pet for your command line. Currently in development.

RedditGifts Map

REDDITGIFTSMAP.COM

2014-2016

This web application uses Google's Map API to generate, save, and edit a visual representation of all giftees of a RedditGifts user.

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.HTML

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](#).