

Caleb Xavier Bugg

Operations Analyst
Reaching Our Sisters Everywhere, Inc. (ROSE)
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Citizenship: United States of America (USA)

Current Appointments

Reaching Our Sisters Everywhere, Inc. (ROSE)

Operations Analyst

2024 - present

Georgia State University, Decatur Campus

Part-time Instructor, Department of Mathematics

2026 - present

Education

Ph.D. Operations Research, The University of California, Berkeley, 2022.

Designated Emphasis in Development Engineering

M.S. Operations Research, The University of California, Berkeley, 2018.

B.S. Mathematics, Morehouse College, 2017.

Minor in Economics

Previous Appointments

The Georgia Institute of Technology

Jerry and Harriet Theusen Postdoctoral Fellow

H. Milton Stewart School of Industrial and Systems Engineering

Center for Health and Humanitarian Systems

2022–2024

The Brookings Institute

Research Internship, Africa Growth Initiative

Global Economy and Development Program

Summer 2022

The American Institute for Economic Research (AIER)

Visiting Scholar (Graduate Level)

“Engineering Insights for a Free-Market Economy”

Advisor: Dr. Robert Wright

Summer 2021

Argonne National Laboratory (ANL)

Givens Fellow (Graduate-Level)

“Biobjective Optimization with Chance Constraints”

Advisor: Dr. Matt Menickelly

Summer 2019

University of Michigan (Ann Arbor, MI)

UM Transportation Research Institute (Summer 2016)

Advisor: Robert Hampshire, Ph.D.

“Qualitative Preferences in OLS Regression Analysis”

Mathematical Sciences Research Institute (Berkeley, CA)

Research Experience for Undergraduates at MSRI (Summer 2015)

Advisor: Francis Edward Su, Ph.D.

“Committee Selection with Approval Voting and Hypercubes”

Texas A&M University (College Station, TX)

Research Experience for Undergraduates at Texas A&M (Summer 2014)

Advisor: J. Maurice Rojas, Ph.D.

“Binomial Solutions to Smale’s 17th Problem”

Publications

Peer-Reviewed Journal Articles

Bugg, Caleb, and Anil Aswani. "Logarithmic sample bounds for Sample Average Approximation with capacity-or budget-constraints." *Operations Research Letters* 49.2 (2021): 231-238. [Publication link](#).

Bugg GW, Bugg GW, **Bugg CX**. “Breastfeeding Communities for Fatherhood: Laying the Groundwork for the Black Fatherhood, Brotherhood, and Manhood Movement.” *Breastfeeding Medicine*. 2021;16(2):121-123. doi:10.1089/bfm.2020.0315. [Publication link](#).

Conference Papers

Bugg, Caleb, Chen Chen, and Anil Aswani. "Nonnegative tensor completion via integer optimization." *Advances in Neural Information Processing Systems* 35 (2022): 10008-10020. [Publication link](#).

Academic Awards

NSF Research Traineeship (NRT) Fellow

NSF Innovations at the Nexus of Food, Water, and Energy Systems (InFEWS)

Spring 2020-Spring 2022

Mentored Research Award

Graduate Division of UC Berkeley

Academic Year 2021-2022

Global Young Scientists Summit

Nominee from the College of Engineering
University of California, Berkeley

Grassi Fellow

Department Fellowship Program [Spring 2020]
Manufacturing, Industrial Systems, and Service Systems
Industrial Engineering and Operations Research (IEOR)
University of California, Berkeley

Grassi Endowment

First-year Fellowship Program [AY 2017-2018]
Manufacturing, Industrial Systems, and Service Systems
Industrial Engineering and Operations Research (IEOR)
University of California, Berkeley

Invited Talks

The Centers for Disease Control and Prevention (CDC): Healthy Food Environments
“Implementing FSGs is Beneficial for Human and Planetary Health”
October 2023

Conferences

2026 National Society of Black Engineers (NSBE) National Conference
Reaching Our Sisters Everywhere, Inc.
March 2026

2025 Black Entrepreneurship Research Symposium
Hosted by The Center for Black Entrepreneurship
November 2025

2025 INFORMS Annual Conference
Reaching Our Sisters Everywhere, Inc.
October 2025

2025 ROSE Fourth Trimester Convening
“ROBE and the 4th Trimester”
April 2025

2024 Blackwell-Tapia Conference
“Stochastic Optimization: Complexity-Based Analysis and Development Engineering”
Institute for Computational and Experimental Research in Mathematics (ICERM)
November 2024

The Big Ten ++ DEI Conference

Participant and HBCU Panel Moderator

October 2023

The Georgia Institute of Technology

2023 INFORMS Annual Conference

“Implementing FSGs with Machine Learning is Beneficial for Human and Planetary Health”

October 2023

NextProf Nexus

Participant

August 2023

The Georgia Institute of Technology

2022 Conference on Neural Information Processing Systems (NeurIPS)

“Nonnegative Tensor Completion via Integer Optimization”

November 2022

Conference for African-American Researchers in the Mathematical Sciences

“Biobjective Optimization with Chance Constraints”

July 2019

Research Interests

data science, operations research and management, food & nutrition policy, nonprofit management

Teaching Experience

Georgia State University, Decatur Campus, Department of Mathematics, Part-time Instructor (PTI), Spring 2026 appointee

The University of California, Berkeley, Department of Industrial Engineering and Operations Research, Graduate Student Instructor (GSI), 2018–2021.

Courses taught:

IEOR 115: Industrial and Commercial Database Systems (undergraduate level)

ENG 120: Engineering Economics (undergraduate level)

IEOR 265: Learning and Optimization (graduate level)

Service and Memberships

The Black Graduate Engineering and Science Students (BGESS)

Internal Vice President

Academic Yrs. 2020-2021, 2021-2022

The University of California, Berkeley

INFORMS Minority Issues Forum (MIF)

Member

Fall 2018-Present

National Society of Black Engineers (NSBE)

Member

Spring 2019-Present

National Association of Mathematicians (NAM)

Member

Fall 2016-Present

Honorary Societies

Phi Beta Kappa Academic Honor Society

Senior Inductee (Spring 2017)

Pi Mu Epsilon Mathematics Honor Society

Sophomore Inductee (Spring 2015)

Last updated: March 18, 2026