Eric Allatta | CS and Math Teacher

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." – John Muir

Summary

Experienced computer science and mathematics educator with over 10 years in New York City public schools, specializing in computational modeling, functional programming, and curriculum design. Proven leader in designing and scaling data science and computer science instruction for diverse learners. Track record of mentoring teachers, presenting nationally, and integrating computing into mathematics standards. Deeply committed to expanding access to meaningful computing experiences, even within under-resourced and high-variance classrooms. Known for building instructional systems that support reflection, iteration, and student growth across disciplines.

Certification & Licensure

NY: 7-12 Mathematics Professional Certification

NY: K-12 Computer Science Certification (in progress; anticipated June 2027)

Teaching & Leadership Experience

Academy for Software Engineering — NYC Department of Education

Mathematics & Computer Science Teacher, Department Lead *2012–2021*

- Designed and taught Algebra, Computational Math, and CS Principles using data science and functional programming (Pyret/Bootstrap), emphasizing conceptual understanding and real-world application.
- Founded school-wide AP CS Principles program; adapted curriculum to support algorithmic modeling and abstraction while aligning with evolving AP standards.
- Developed large-scale data visualization and modeling lessons to meet NY Next Gen Math Standards, incorporating real-world datasets and civic tech.
- Led vertical alignment of Algebra, Computational Math, AP Statistics, and Precalculus to embed computational thinking and improve coherence across math and CS.
- Mentored students through data science projects presented at Bloomberg, ISTE, and local showcases; supported pathways to scholarships and internships.
- Built digital systems for mastery-based grading, intervention tracking, and student progress monitoring and reporting during remote learning.
- Achieved consistent 90%+ graduation rates; led school-wide interventions that improved Algebra Regents pass rates.

Programming in Java Course Instructor & AP CS A Collaborator:

- Taught a multi-year "Programming in Java" course, equipping students with a solid foundation in object-oriented programming and core computer science principles.
- Collaborated with the AP CS A instructor to align educational pedagogy, exchange instructional strategies, and enhance vertical alignment between the feeder course and AP CS A.
- Co-managed classroom space and applied instructional design practices with a former software engineer and educator, incorporating design by contract and examples-driven programming into shared student pathways.
- Contributed to attaining successful AP CS A outcomes that meet national averages through effective feeder alignment and ongoing co-teaching collaboration.

Bronx Center for Science and Mathematics

Urban Teacher Resident *2011–2012*

- Taught full-year Algebra II/Trig; led Regents prep that improved student scores beyond citywide averages.
- Completed action research project on assessment-driven instruction in upper-level math.

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Teacher Training & Consulting

Math for America

Early Career & Master Teacher Fellow *2013–2021*

- Led workshops for premier NYC math and science educators, focusing on functional programming techniques and the integration of computing into math instruction.
- Engaged in monthly professional development sessions centered on advanced mathematics, pedagogy, and interdisciplinary instructional strategies.

Bootstrap / CS Alliance / Rutgers / SFPS

Senior Master Teacher & Consultant *2014–Present*

- Delivered national professional development for hundreds of K-12 educators on integrating computing into math through Pyret, Racket, and data modeling.
- Developed and reviewed curriculum aligned to NGSS and Precalculus standards; coached educators on computational math pedagogy and classroom implementation.
- Built mentorship pipelines for new CS educators, especially those entering from math backgrounds.
- Supported state-level and district-wide training initiatives across New York, New Jersey, and beyond.

Research & Curriculum Development

AFSE + Bootstrap

Computational Algebra Researcher *2013–2014*

- Conducted controlled study on functional programming pedagogy in Algebra I classrooms.
- Experimental group students demonstrated a 90–111% increase in accurate modeling of word problems; control group scores declined by 39%.
- Findings informed professional development practices and curriculum design across Bootstrap-aligned programs.

CollegeBoard

AP CS Principles Pilot Developer *2013–2017*

- Co-developed early AP CS Principles curriculum with national teams including BJC, Bootstrap, EarSketch, and CSNYC.
- Contributed to national standards for computer science instruction and teacher training models.
- Delivered pilot trainings and curriculum reviews in advance of the AP CS Principles rollout.

Selected Publications & Presentations

- **"Solving for X and Y in a School Focused on Math and Computer Science,"** EdSurge (2016) - Recounted the founding of AFSE and the curricular innovations that shaped its integrated CS/math program. edsurge.com/news/2016-07-16
- **"Yes, any teacher can help the city spread computer science,"** Chalkbeat (2015) - Personal account advocating for broader CS4All teacher participation and rigorous training for those entering from non-CS backgrounds. chalkbeat.org/. . . /yes-any-teacher-can-help
- **SIGCSE Presentations (2015, 2018):** Invited to present by Dan Garcia and Colleen Lewis on tools, performance tasks, and instructional strategies for CS Principles.
- **"So This is CS!" Workshop — Rutgers University (2022):** Delivered virtual professional development for NJ math teachers on integrating computing with standards-based instruction.
- **MfA Workshops (2016–2020):** Led recurring workshops for NYC educators on functional programming, recursion, and computational math pedagogy.
- **Teaching Tips — CSTeachingTips.org (2015):** Contributed classroom-tested strategies on CS instruction.

Portfolio and supporting materials available at: mrallatta.github.io/teaching-portfolio

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