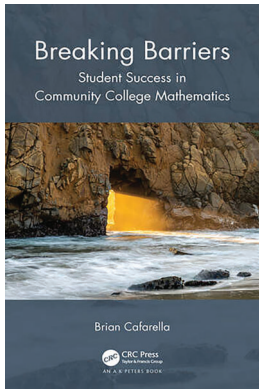




BOOKSHELF

New and Noteworthy Titles on our Bookshelf
October 2022

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Breaking Barriers: Student Success in Community College Mathematics
By Brian Cafarella

We have all experienced or heard stories of working with students who are underprepared for college math. We'll likely see this trend continue and worsen as we deal with the fallout of remote learning during the pandemic. Inspired by his own experience as both a community college student and

educator, in *Breaking Barriers* Cafarella explores some of the challenges surrounding introductory college math courses today.

Specifically, he focuses on the challenges faced by students and faculty in developmental math classes. Developmental math, which is where many students enrolling in community colleges are placed, covers topics below the college level that are typically presented during high school. Cafarella sites many sources that indicate that the student success rate in these courses, and the college level math that follows, is concerning and that success in these courses can be used as an indicator for success in college, overall. He interviewed 25 community college students who struggled with their math requirement to uncover common themes for failure and success. He also interviewed community college faculty about what they feel incoming students are missing and struggling with. He concludes the book with some lessons we can learn from his interviews.

While the subjects interviewed in this book are all from community colleges, many of the challenges discussed are relevant at four-year institutions. As such, this well-organized and non-technical book would help any college-level math educator better understand and support their students in developmental or introductory level courses.

The Bookshelf is prepared monthly by Notices Associate Editor Katelynn Kochalski.

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How Algorithms Create and Prevent Fake News: Exploring the Impacts of Social Media, Deepfakes, GPT-3, and More
By Noah Giansiracusa

We're all aware of the political accusations that have been lobbed around regarding fake news. In an age where the internet serves as a primary news source that is largely unmonitored, how can fake news be spotted and stopped? Giansiracusa's book explains how

the algorithms used to create fake news work and provides hope that the methods currently being developed will be able to flag information as suspect.

Many of the topics discussed in the book draw on deep learning, an artificial intelligence prediction process where a computer is fed a training set of data and uses this to build an even larger training set of data. This book discusses how the decline of local news sources, and the monetary motivation of page clicks or viewing time have allowed instances of fake news to thrive. It also addresses what companies like YouTube and Google are doing to combat these issues. In doing so, many facets of deep learning are explored.

This book does not require any mathematical background and while it doesn't delve too far into the mathematical details, it would be of interest to both mathematicians and non-math folks, alike. Written in a friendly and approachable tone, the chapters can be read independently, since whenever a chapter relies on a result from an earlier chapter, a concise summary of the relevant material is provided. The book has a pro-democrat slant and is highly example driven, drawing extensively on fake news incidents involving former President Trump and, separately, the Brazilian government. This book is packed with important details for people interested in becoming critical consumers of online news sources, both formal and informal.