

CODED BIAS



A SHALINI KANTAYYA FILM



CODED BIAS

A FILM BY SHALINI KANTAYYA

“Thought-provoking. “Coded Bias” serves as both a wake-up call (to invasive practices the public doesn’t yet realize are being implemented) and a call to action.”

VARIETY

“Coded Bias takes you to the front lines of the digital revolution.”

CHICAGO
READER

“The best of Sundance.”
“Dismaying and engaging.”

THE
DENVER
POST

LOGLINE

Coded Bias explores the fallout of MIT Media Lab researcher Joy Buolamwini's startling discovery that facial recognition does not see dark-skinned faces accurately, and her journey to push for the first-ever legislation in the U.S. to govern against bias in the algorithms that impact us all.

SYNOPSIS

Modern society sits at the intersection of two crucial questions: What does it mean when artificial intelligence (AI) increasingly governs our liberties? And what are the consequences for the people AI is biased against? When MIT Media Lab researcher Joy Buolamwini discovers that most facial-recognition software does not accurately identify darker-skinned faces and the faces of women, she delves into an investigation of widespread bias in algorithms. As it turns out, artificial intelligence is not neutral, and women are leading the charge to ensure our civil rights are protected.

codedbias.com

ISSUE

Coded Bias weaves a history of the small homogeneous group of men who defined artificial intelligence and forged the culture of Silicon Valley—a culture rapidly reshaping the world. As humans increasingly outsource decision-making to machines, algorithms already decide who gets hired, who gets health care, and who gets undue police scrutiny. Automated decisionmaking has the unprecedented power to disseminate bias at scale. Coded Bias tells the uncharted story of rebels and misfits, women mathematicians and data scientists leading the fight for ethical use of the technologies of the future.

ARTISTIC VISION

Coded Bias weaves personal stories, graphic elements, and lyricism to explore how bias gets encoded in the algorithms that decide the destinies of millions of people. As sci-fi writers have inspired the imagination of A.I. developers, Coded Bias draws from science-fiction stylistic elements to visualize concepts in this era of big data. Coded Bias aims inspire and engage audiences to reimagine technology and civil rights around the world.

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Joy Buolamwini is a poet of code who uses art and research to illuminate the social implications of artificial intelligence. She founded the Algorithmic Justice League to fight the coded gaze - harmful bias in artificial intelligence. A PhD candidate at the MIT Media Lab, she pioneered techniques that are now leading to increased transparency in the use of facial analysis technology globally. More than 230 articles in over 37 countries have been written about her Gender Shades thesis work that uncovered large accuracy disparities in commercial AI services.



Cathy O'Neil is an American mathematician and the author of the blog mathbabe.org. In 2016, her book *Weapons of Math Destruction* was published and long-listed for the National Book Award for Nonfiction. O'Neil attended UC Berkeley as an undergraduate, received a Ph.D. in mathematics from Harvard University in 1999, and afterward held positions in the mathematics departments of MIT and Barnard College, doing research in arithmetic algebraic geometry.



Virginia Eubanks is Associate Professor of Women's Studies and author of *Automating Inequality*. She joined the Department in 2004 after completing her Ph.D. in Science and Technology Studies at Rensselaer Polytechnic Institute. Eubanks teaches courses in public policy, research methodology, and feminist science and technology studies. She is currently engaged in a four-year National Science Foundation funded research project exploring the effects of welfare administration technologies on clients and frontline caseworkers in New York State.

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Dr. Safiya Umoja Noble is an Associate Professor at UCLA in the Departments of Information Studies and African American Studies. She is the author of a best-selling book on racist and sexist algorithmic bias in commercial search engines, entitled *Algorithms of Oppression: How Search Engines Reinforce Racism* (NYU Press). She is quoted for her expertise on issues of algorithmic discrimination and technology bias by international press including *The Guardian*, the BBC, CNN International, USA Today, *Wired*, *Time*, and *The New York Times*.



Dr. Zeynep Tufekci is an Associate Professor at the UNC School of Information and Library Science (SILS) and a regular contributor to the *New York Times* op-ed section and *Wired*. She has an affiliate appointment with the UNC Department of Sociology and is a faculty associate at the Harvard Berkman Klein Center for Internet and Society. She is the author of *Twitter and Teargas*. Originally from Turkey, and formerly a computer programmer, she is also increasingly known for her work on "big data" and algorithmic decision-making.



Silkie Carlo, director of Big Brother Watch, is monitoring the trial use of facial recognition technology by the UK police. Prior to Big Brother Watch, she was the Senior Advocacy Officer at Liberty where she led a program on Technology and Human Rights and launched a legal challenge to the Investigatory Powers Act. She previously worked for Edward Snowden's official defense fund and whistleblowers at risk. She has worked to uphold rights in the fields of state surveillance, policing technologies, big data, artificial intelligence and free expression online. She is the coauthor of *Information Security for Journalists*.

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Ravi Naik, the Law Society's 2018 Human Rights Lawyer of the Year, is a multi-award winning Partner, with a groundbreaking practice at the forefront of data rights and technology. These include the first case against Cambridge Analytica for political profiling, claims against Facebook for their data practices, challenges to financial blacklisting, through to numerous precedent setting judicial reviews. Ravi also regularly provides commentary in the media on a range of issues, including the Guardian, CNN, the Daily Mail, the BBC, WIRED, and the Telegraph.



Data journalist Meredith Broussard is an assistant professor at the Arthur L. Carter Journalism Institute of New York University and the author of "Artificial Unintelligence: How Computers Misunderstand the World." She is an affiliate faculty member at the Moore Sloan Data Science Environment at the NYU Center for Data Science, a 2019 Reynolds Journalism Institute Fellow. She has also worked as a software developer at AT&T Bell Labs and the MIT Media Lab.

KEY PRODUCTION PERSONNEL



Director/Producer Shalini Kantayya's feature documentary, *Coded Bias*, premiered at the 2020 Sundance Film Festival. She directed an episode of the National Geographic television series *Breakthrough*, Executive Produced by Ron Howard, broadcast globally in 2017. Her debut feature film *Catching the Sun*, premiered at the Los Angeles Film Festival and was named a New York Times Critics' Pick. *Catching the Sun* released globally on Netflix on Earth Day 2016 with Executive Producer Leonardo DiCaprio, and was nominated for the Environmental Media Association Award for Best Documentary.

Kantayya is a TED Fellow, a William J. Fulbright Scholar, and a finalist for the ABC Disney DGA Directing Program. Kantayya finished in the top 10 out of 12,000 filmmakers on Fox's *On the Lot*, a show by Steven Spielberg in search of Hollywood's next great director. She is an Associate of the UC Berkeley Graduate School of Journalism.

shalinikantayya.net

ABOUT THE PRODUCTION COMPANY

7th Empire Media is a production company with a mission to create a culture of human rights and a sustainable planet through imaginative media that makes impact.



FILM CONTACT

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7th Empire Media presents
in association with JustFilms | Ford Foundation and Alfred P. Sloan Foundation Film Program
a Shalini Kantayya film

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Director Shalini Kantayya
Producer Shalini Kantayya p.g.a.
Co-Producer Sabine Hoffman
Director of Photography Steve Acevedo
Editors Alexandra Gilwit Zachary Ludescher Shalini Kantayya
Visual Effects Zachary Ludescher Alexandra Gilwit
Original Score Katya Mihailova

Post-Production Services
Associate Producer
Archival Research

Story Editors

Assistant Editor
Additional Camera

Dakoit Pictures
Kathryn Henderson
Mattie Akers
Sheila Maniar
Christopher Seward
Paul Rachman
Kurt Engfehr
Kathleen Caldwell
Derek Janniere
Derek Wieseahn
George Wieser
Beau Grantland
Brad Sunness
Eric Phillips-Horst
Wolfgang Daniels
Gabriel Rubin
Jen Atalla
Bowie Alexander

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Audio Post Facility
Supervising Sound Editor
Dialog Editor
Sound FX Editor
Re-Recording Mixer
Consulting Producer
Additional Visual Effects
Camera Assistant
Sound Recordist

Live Projection Team

Studio
First Production Assistants

Production Assistants

Voiceover Talent
Dolly Services
Performance Artists

Nicole Salazar
Splash Studios, NYC
Peter Levin
Barbara Parks
Will Hsieh
Peter Levin
Karin Hayes
Gavin Guerra
Chantal Arslan
Jim Keaney
Mike Bono
Ted Passon
Jason Batcheller
Seth Kirby
Bill Moore
Zach Slocum
Ruby Bird Studios Brooklyn
Enosa Ogbeide
Mayukha Karnam
Esme Isabel Auster
Abbie Jones Hornburg
Tate Hanyok
Jimmy Day
Janell Williams
Stephanie Browne
Rebecca Handler

Big Brother

Guitar
Violin

Viola

Recording Musicians

John Casey

Chris Petti
Alex Tyfer
Eugene Grach
Daniel Lay
Maxim Levin



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Cello

**Double Bass
Piano
Music by
Additional Mixing
Sound Engineer**

Marta Bagratuni
Kumhee Lee
Len Slutski
Katya Mihailova
GIGI Services
Chris Petti
Mike MacAllister
Creekside Studios

China Unit

**Hangzhou Field Producer
Camera Operator
Sound Recordist**

Casey Homovich
Yang Yang
Jay Wu
He Junyi

United Kingdom Unit

**London Field Producer
Camera Operator
Camera Assistant
Sound Recordist
Runner/ Driver**

Mike Beddoes
James Heaphy
William Hadley
Maxmilian Skach
Alex Purkiss
Dana Myzer

South Africa Unit

**Capetown Field Producer
Sound Recordist**

**Fiscal Sponsor
Bookkeeping
Accounting
Publicist
Speaking Agent
Impact Producer
Poster Design
Distribution Advisory Services
Clearance Counsel

Distribution Counsel**

Antoinette Engel
Zahir Isaacs

Women Make Movies
Inga Eilenkrig
Mainline Partners
The 2050 Group
Lavin Agency
Locsi Ferra
Pablo Londero
Cinetic Media
Donaldson + Callif, LLP
Dale Nelson
Granderson Des Rochers, LLP
Anita Surendran, Esq.



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Funding for this Project Provided by:

Just Films | Ford Foundation

Alfred P. Sloan Foundation Film Program
Sundance Institute Documentary Film Program

With support from

John D. and Catherine T.
MacArthur Foundation
Science Sandbox
National Geographic
The Jerome Foundation
Chicken & Egg Pictures

Featuring:

Joy Buolamwini	LaTonya Myers
Cathy O'Neil	Tranae Moran
Meredith Broussard	Ravi Naik
Silkie Carlo	Safiya Noble
Icemaë Downes	Mona Patel
Virgina Eubanks	Deborah Raji
Griff Ferris	Daniel Santos
Manuel Victor Frederick	Mona Sloan
Timnit Gebru	Megan Smith
Mark Houldin	Kiri Soares
Jenny Jones	Zeynep Tufekci
Patric Tariq Mellet	Amy Webb

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Very Special Thanks

Amma
ACLU of Massachusetts
AfroPunk
A.I. Now Institute
Algorithmic Justice League
Melissa Aberman
Yemi Amu
Shoham Arad
Aki Hirata Baker & Family
Shirlyn Baker
Samantha Bates
Julie Benello
Anurima Bhargava
Greg Boustead
Lann Briel
Andrea Brown
Brown Girls Doc Mafia
Zeph Capo
Gabriel Florenz
Yale Fox
Kyra Gaunt
Georgetown Center
on Data and Privacy
Barbara Ghammashi
Megan Goulding
Julia Gunnison
Habitas
Harvard Bookstore
Taila Hewitt
Nicole Hughes
Jordan Iturbido
Kathy Im
Tabitha Jackson
Grey Jabesi
Michael Jones
Van Jones
Hajnal Molnar-Szakacs
Paola Mottura
Stanley Nelson
Mutale Nkonde

Wandisile Nqeketho
George Orwell
Robert Lee Parr
Juan Pablo Dominguez
Lauren Pabst
Pioneer Works
Tom Reilly
Rane Riley-walker
Eric Robinson
Cansu Safar
Hanna Sassaman
Eric Sears
Neelam Sharma
Sharda Shekaran
David Caroll
Seana Cavanaugh & Steve
Huntley Center for Data
and Society
Sonya Childress
Fitzroy Christian
Tanuj Chopra
Color of Change
Katrina Conan
Hannah Couchman
Brenda Coughlin
Diamond Crawford
Kade Crockford
Siyabulela Daweji
Paul-Olivier Dehaye
Stephanie Dinkins
Katie Evans
Rodney Evans
James Ferrar
Dawn Fraser
Firelight Media Lab
Samar Katnani
Alexandra Kahn
Jamie Kingston
Stephanie Lechicha

Mallika Kantayya
Mellini Kantayya
Teru Lily Kantayya Burke
Sean Kantayya Burke
Mary Keil
Quan Lateef
Janna Levin
Loira Limbal
Kim Lund
MacArthur Foundation
Massachusetts Institute of
Technology
Lori McGlinchey
Yolanda Navarro Middle School
Aleyamma Matthew
Media Mobilizing Project
Cara Mertes
William Moore
Chelsea Shields
Cynthia e. Smith
Eric Shiner
Cyndi Stivers
Morgan Swan
Stella Tan-Torres
Rahdi Taylor
TED Fellows
TED Residency
Gretchen & Joe Trasco
University of California,
Los Angeles
University of North Carolina
Kelly Vaughn
Angelica Vergel
Lily Whitsitt
Chi-hui Yang
Yarn Labs
Dustin Yellin
Debra Zimmerman
Lynne E. Zalesak

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Archival Footage

CBS/Veritone
Courtesy of Dartmouth College Library
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Music

"On The Beautiful Blue Danube"
"An der schönen blauen Donau", Op. 314
Written by Johann Strauss II
Performed by English Session
Orchestra

"Clair de Lune" Suite Bergamasque
Written by Claude Debussy
Performed by Katya Mihailova

"Coded Bias" Theme Song
Vocals Naiika Alfred
Mix and Mastering Chris Petti
Lyrics by Joy Buolamwini, "AI, Ain't I a Woman"

This project was completed with the support of the Women Make Movies Production Assistance Program.

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