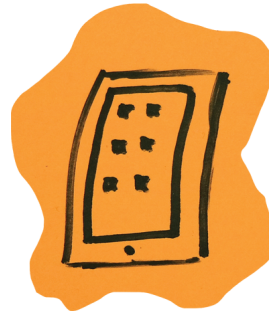




BIG DATA?

BIG ISSUE?



HOW DO THE POLICE USE BIG DATA?
HOW DOES THIS IMPACT NEW YORKERS?

In 2019, the New York Police Department (NYPD) introduced a computer program called Patternizr. Patternizr is an example of software that helps police analyze Big Data. These software systems are sometimes referred to as “data-driven policing” or “predictive policing,” and they are used in some of the largest cities across the country.

WHAT IS BIG DATA?

How does the NYPD use Big Data?
How does this impact New Yorkers?



Patternizr?

In the winter of 2022, CUP and Teaching Artist Christopher Lopez collaborated with Mr. Mark Leffler’s 12th grade computer science class at the International Community High School (ICHS) in the Bronx, to investigate these issues. The group documented the neighborhood through photography, designed algorithms, and talked to community members and stakeholders working on the issue. The team gathered what they learned and created this booklet to teach others about Big Data and policing algorithms, and to imagine the future of public safety!

BIG DATA is a massive amount of data that comes from many different sources. For example, companies may track consumer habits by collecting information on what people like and dislike on social media. A government agency may track infection rates to find patterns in how illness spreads during a pandemic.



“Big data is such a large and complex volume of data, that it’s too large for somebody manually to be handling. So it requires using computer machine learning programs, like algorithms.”

- Samantha Kleinfield, Executive Director,
Violence and Predictive Analytics,
Mayor’s Office of Criminal Justice

I'm Samantha
I work for
the mayor's office

I help reduce gun
violence using
data.

Have you ever heard the term "algorithm"?

An algorithm is a list of steps or rules that you give a computer to solve a problem. The data that's fed into the algorithm will impact the result.

"Data is like your ingredients. An algorithm is like your recipe. And what it produces is a meal, or a model. Of course the recipe matters. But what really matters is how good your ingredients are. If you're making spaghetti and meatballs with rotten tomatoes, no matter how good your grandma's recipe is, it's not going to taste good."

- Cynthia Conti-Cook, Technology Fellow, Gender, Racial and Ethnic Justice, Ford Foundation

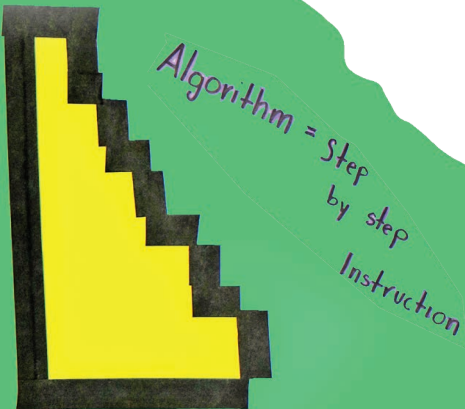
"The important thing to remember about an algorithm is that it is not neutral...The usefulness or the fairness of the algorithm depends on who built it, how they built it, and what they build it for."

- Alice Fontier, Managing Director, Neighborhood Defender Services

I'm Cynthia. I analyze data to protect vulnerable Communities.

I AM ALICE I CARE ABOUT MY COMMUNITY

ICHS Students created websites to explore the role of Big Data in our everyday lives: ichsandcup.markleffler.repl.co/



Where do we find Big Data and algorithms in everyday life?

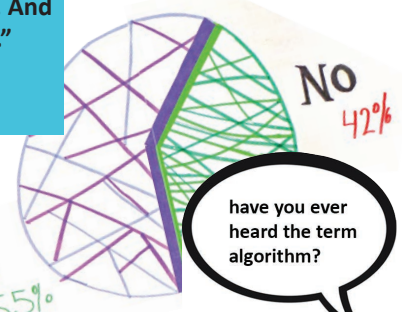
"[Big Data] can be involved in everything from deciding how much home health care someone is receiving. It can mean that a system is using Big Data to identify the likelihood of someone returning to court or not returning to court. We also see Big Data in our social media feeds."

- Cynthia Conti-Cook

I'm ALBERT I Love Computer Technology

"It's every choice you've ever made. Everything you've ever done online. Every place you've ever gone. Turned into a database sold to the highest bidder. And sometimes that bidder is the government."

- Albert Fox Cahn, Executive Director, Surveillance Technology Oversight Project



have you ever heard the term algorithm?



"Twitter, Instagram, Tik Tok, YouTube—what you are seeing is part of an algorithm. Social media uses your data that you're putting in—what you click on, what you skip by, what you like—to then produce more content that you are expected to like. Almost all advertising is done by algorithms. It's everywhere."

- Alice Fontier



WHAT IS DATA DRIVEN POLICING AND HOW DOES THE NYPD USE IT?



Data driven policing uses computer systems to analyze Big Data, including historical crime data, to help decide where to deploy police resources.

The NYPD has used data driven policing software since at least 2012. In 2013, the NYPD started using its own policing algorithms. These algorithms include crime categories like shootings, assault, and theft. The NYPD uses these algorithms to identify places and times that have a high risk of crime. They then deploy police resources to those areas, like flood lights or patrol officers.

“The NYPD is taking all of the information they have and putting it into one system. It literally contains billions of records, from phone calls to 311, to 911 calls, and arrest records. If you call for help, your information is in there, it’s all together, and they can track it in real time on a cell phone.” - Alice Fontier

Patternizr analyzes the Big Data from hundreds of thousands of crimes across all 77 precincts in the NYPD’s database. According to police, Patternizr can help police detectives identify patterns in crimes committed by the same offenders or same group of offenders.

“The data [from Patternizr] cannot legally be used for any kind of basis of prosecution. It’s not acceptable in court [as evidence for a crime]. It’s simply just a way to direct where to be looking if there’s an investigation But everything has to have the officer, detective, or the investigator go out and actually investigate it on the ground.” - Samantha Kleinfield



STUDENTS CREATED A BRANCHING ALGORITHM TO SHOW WHAT POLICING SOFTWARE MIGHT LOOK LIKE...

Police look for GANGS

By looking for Signs

And watching People on the Street

Or in less Crowded Places

They surveil Communities

Different perspective and technology

Looking for signs or Crime

To issue tickets and make arrests

KEY WORD SEARCH...
GANGS, GRAFFITI, EMPTY LOT, CAMERAS, BROKEN WINDOWS



HOW ELSE DOES THE NYPD USE BIG DATA?

“There is a massive amount of data that’s been collected by police constantly. They collect data on who they surveil, on who they investigate, on who they stop, on who they detain, who they arrest, and many more things.”

- Cynthia Conti-Cook

Gang Database

“The NYPD gang database is over 99% nonwhite. It’s basically a database of young BIPOC New Yorkers. It alleges that thousands of people are in a gang sometimes because they’re photographed wearing a specific color of shirt, or sometimes because they’re just photographed near someone who has also been labeled as gang-affiliated.”

- Albert Fox Cahn

To learn more about the NYPD gang database, check out: welcometocup.org/Projects/UrbanInvestigations/SweptUp



Surveillance

“The NYPD has a system of thousands and thousands of cameras called the Domain Awareness System. The NYPD also coordinates with businesses to be able to map into and tap their cameras.”

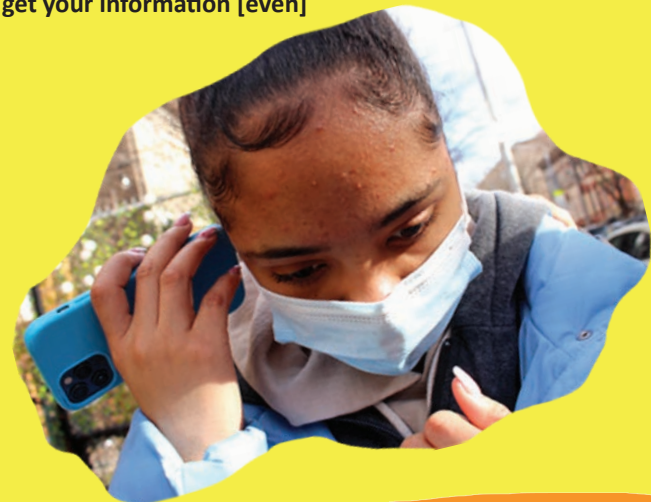
- Alice Fontier

To learn more about how the NYPD use surveillance technology, check out: welcometocup.org/DataFace/

Social Media

“Anything that you post in any public format is no longer private. The police can look at it. They can do anything they want with it. They can copy it. They can friend you, and then get your information [even] if it’s private.”

- Alice Fontier



HOW CAN BIAS IN BIG DATA THREATEN PUBLIC SAFETY?

"The vast majority of people who have ever been arrested are Black and brown. So the [Big Data] used by police racially skews the results generated by data driven policing." - Alice Fontier



"You could have the best machine learning on the planet, you could have the best algorithm, you could have the most sophisticated computer scientists. But because all we can do is train these systems with the data we have, we end up just training them to replicate the same failures of the past." - Albert Fox Cahn

"The problem is historical data that reflects historical bias between police and the communities they're operating within[.] Relying on historical data about policing...includes a lot of bias, whether it's the officers being deployed on the ground, or whether the bias is from the supervising officers that are flooding a community of color with police, that historical data will then be informing new police officers to continue the patterns of historical discrimination." - Cynthia Conti-Cook

HOW CAN BIG DATA PROMOTE PUBLIC SAFETY?

"We use Big Data to look at the city [and decide]: Where do we need programming? Where do we need services and support? And is the kind of programming, services, and supports that we have in place actually reaching those we want to be reaching? Is that actually effective? Is it actually the kind of programming that the community wants?"

- Samantha Kleinfeld



In the winter of 2022, ICHS students surveyed community members in the South Bronx about the police using Big Data.



"There are opportunities to invite communities that self-select for needing policing resources to be involved in determining what priorities the data should be used for. For example, using data not just to instruct how many officers to send to a foreclosure or eviction, but also to help that community build resources for property owners so that there wasn't so much foreclosure."

- Cynthia Conti-Cook

WHAT DOES OUR COMMUNITY THINK?



DO YOU THINK PATTERNIZR HELPS COMMUNITIES STAY SAFE?



"It depends"

"It protects communities"

"It has a positive impact"

"It treats people like criminals"

"It has a negative impact"



"This technology will target people of color."
-Bonx Community Member

"The police should be more responsible with this software. I have 2 children and it makes me afraid."
-Bonx Community Member



WHAT DO STUDENTS THINK?

"Police treat people like criminals and create assumptions in certain communities that are constantly affected by the police system."
- Daniela Reyes, ICHS Student

"Police should use Big Data because it can help them to have something to start investigating. But they should use this information wisely."
- Deryl Quezada, ICHS Student

"I think that if predictive policing is accurate the police should use it. But, I don't think it would be alright if they target certain groups of people."
- Krystal Solano, ICHS Student

"Police should not use Big Data because it invades our privacy."
- Thanwer Mahmud, ICHS Student

"I think police shouldn't use [Big Data] because it might be prejudiced against the person who committed the crime and sometimes it's not accurate."
- Leilany Ortiz, ICHS Student

"I think it depends on the case that police want to use [policing algorithms]. But, it's not easy to predict something that you don't know how because it hasn't happened yet."
- Danyeir Garcia, ICHS Student

HOW COULD THINGS BE DIFFERENT?

How We See
Safety 112 Our
Community



CREATE MORE POLICE OVERSIGHT
 "We see people taking action all across the country. We see bans on facial recognition. In dozens of cities, we see new laws requiring police oversight."
 - Albert Fox Cahn



USE BIG DATA TO UNDERSTAND HISTORICAL BIAS IN POLICING
 "We can use that data to understand the biases with how policing has historically happened."
 - Cynthia Conti-Cook

INVOLVE COMMUNITIES AND PRIORITIZE THEIR NEEDS
 "In July 2021, [the Mayor's Office of Criminal Justice] launched a precision hiring initiative. We looked at the data to see where gun violence had concentrated across the city[.] And that informed us rolling out [a] toolbox of interventions, [such as] credible messengers and service providers. [This allowed us] to link individuals who are at highest risk for gun violence involvement and connect them to immediately gainful employment opportunities to hopefully keep them out of harm's way."
 - Samantha Kleinfeld

DELETE POLICING BIG DATA
 "Just delete the data. The problem is that we keep being told that we can get a kinder, gentler surveillance state. We can't. The technology just will not work. It will not keep us safe, it will only be a threat."
 - Albert Fox Cahn

USE OUTSIDE TESTER TO ASSESS POLICING ALGORITHMS
 "Patternizr was built by the NYPD. But it has never been tested by anybody outside of the NYPD."- Alice Fontier



ICHS Students:

Eduardo Aquino Nina, Enmanuel Arroyo, Adama Bah, Lisbeth Cedano, Maireny Corporan, Diana Cruz, Madiop Diop, Angel Dominguez, Hatouma Doucoure, Zenab Kaba, Zama Kabore, Thanwer Mahmud, Serigne Mbodj, Abimael Mercedes, Ashlier Merejildo, Yoni Miranda, Zabdy Orellana, Melany Ortiz, Melany Panchana Quinche, Joan Parada Franco, Enmanuel Paulino Alberto, Wilfred Quezada Chavez, Malory Quezada, Daniela Reyes, Geika Santos De La Cruz, Maria Santos, Silvia Wilson, Hisham Alamari, Mel Bravo, Claribélisa Catalan Gonzalez, Juan Cruz Baez, Erick Duarte Filpo, Jairo Fernandez, Yancreilin Francisco, Carolyn Guzman, Isarien Lopez, Lerins Martinez, Yovangely Mejia Lino, Leilany Ortiz, Michael Paredes, Náyelin Perez, Randy Polanco, Deryl Quezada, Lady Reyes Ojeda, Yenny Rodriguez Checo, Melanie Salvatierra, Mákale Toure, Derixander Vargas, Lidelis Vargas, Manuel Vargas, Pamela Vasquez, Gustavo Vazquez Pantoja, Lisbeth Acosta, Rasel Ali, Anabel Almanzar, Fatoumata Barry, Zakaria Billa, Renia Bonifacio Suazo, Rafael Candido-Juarez, Valenciano Chavez De Jesus, Hasly Cortes, Melany Del Carmen Diaz, Mirlemny Espino, Martin Espinoza, Danyeirris Garcia Rodriguez, Jean Guilenguí Kiki, Habi Kane, Lesvi Orellana Mejia, Jency Palacios Arriola, Juana Pena Vasquez, Jarison Polanco, Wilber Quezada Chavez, Victor Rumaldo, Amy Samb, Mouhamed Samb, Romaldo Sanchez, Babacar Signate, Emelin Tavez, Manifer Triunfel Castillo, Oumarou Batchilly, Esperanza Cabal, Lauriany Del Rosario, Bassirou Diop, Anarosa Encarnacion Quezada, Winston Estevez, Rafael Guaba, Joselyn Guaraca Tisalema, Heily Guzman Rodriguez, Alexi Heredia, Yeuri Iven, Cheikh Ka, Jonnathan Leon Cela, Danny Mercado, Ouleye Mbow, Oumou Nantoume, Magby Orellana, Lidia Pujol, Willybert Quezada Chavez, Herlin Raxtun, Crismeiry Sanchez, Krystal Solano, Houllaimatou Sow, Syeda Sumaiya.

CUP:

Teaching Artist & Designer: Christopher Lopez
Project Lead: Fielding Hong

ICHS:

Classroom Teacher: Mark Leffler
Paraprofessional: Erica Beltre
Paraprofessional: Clara Cabreja
Paraprofessional: Nadia De Leon
Paraprofessional: Nassira Hamdi
Principal: Berena Cabarcas
Assistant Principal: Eva Sievert-Schiller

Thank you to our interviewees: Albert Fox Cahn, Cynthia Conti-Cook, Alice Fontier, Samantha Kleinfeld

Special thanks: Marisa Hetzler

The Center for Urban Pedagogy (CUP) is a nonprofit organization that uses the power of design and art to increase meaningful civic engagement, in partnership with members from historically marginalized communities.

This project is part of **City Studies**, CUP's project-based, in-class and afterschool programs that use design and art as tools to research the city. To learn more, visit welcometoCUP.org.

The International Community High School is a progressive public school for English Language learners in the South Bronx. To learn more, visit ichs.weebly.com.

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