





#### Dear friends,

The University of Pittsburgh Institute for Cyber Law, Policy, and Security's work to minimize the gap at the intersection of technology, law, and policy is even more relevant today than it was in 2017 when we launched the institute.

It is a privilege to be able to bring together so many brilliant and dedicated minds from across the University in furtherance of this mission. But the true privilege is our work outside of Pitt itself: our work with community partners here in Pittsburgh and beyond. This work on the ground is where we can have the biggest impact.

Even as I remain thoroughly optimistic about the promise of technologies for our world, I am disheartened by the reality that all too often work in the technology space fails to account for unintended consequences for individuals, communities, and society.

Pitt Cyber's work is vital to ensuring the equity and security of the technologies that drive our world. I urge us all to remember that it is people that matter and that it is people who develop and use technologies.

Please join me in celebrating Pitt Cyber's impact in 2022. We are grateful for your continued partnership.

Sincerely,

David Hickton Founding Director





In March 2022, the Pittsburgh Task Force on Public Algorithms released its report and recommendations for improving the accountability of the use of algorithmic systems by local governments.

Government use of algorithms can help to solve complex problems and improve delivery of public services. But there is also evidence that some algorithmic systems can lock in and exacerbate bias and harms—especially along racial and gender lines—leading to more inequity and injustice.

To help governments develop and manage algorithms that solve problems and avoid harms, the task force endeavored to learn from residents in our region about their hopes and concerns for government use of algorithmic systems; as well as to learn from our local governments' experiences with these systems.

The task force offered concrete recommendations to improve transparency, public participation in, and accountability of the use of public algorithmic systems—providing a model for our region to emerge as a leader in helping to achieve greater algorithmic justice and accountability balanced with responsible growth.

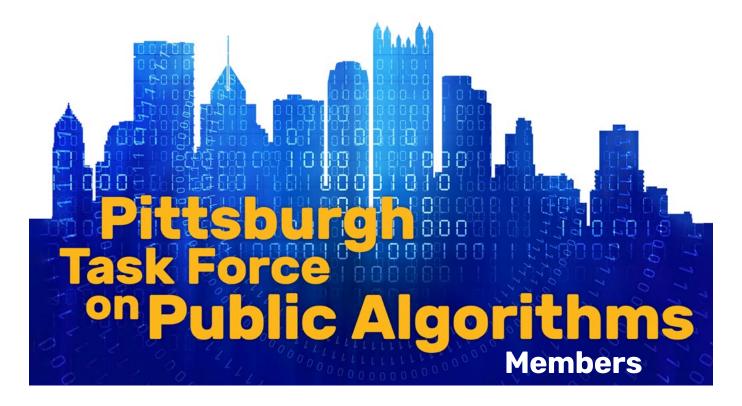
The entirety of the recommendations is included in the task force's full report, along with information about selected public algorithms in the Pittsburgh region.

The report and additional materials can be found at cyber.pitt.edu/algorithms.

# Pittsburgh Task Force on Public Algorithms Recommendations in Brief

The task force believes that government consideration of any algorithmic system should entail a risk-based assessment of the use of the system against the status quo. A balancing of costs and benefits must be done with a full appreciation of all perspectives and include robust public involvement to improve outcomes and to engender trust. Governments should:

- Encourage meaningful public participation, commensurate with the risk level of the potential algorithmic system.
- Involve the public in algorithmic system development plans, from the earliest stages through any later substantive changes to the system.
- Utilize external reviews when the system might be higher risk.
- Assess whether any planned procurement might include an algorithmic system.
- Publish information about algorithmic systems on a public registry website.
- Avoid facial recognition and related systems.
- Evaluate effectiveness of recommendations and implementation.



#### Rachel Berger,

chief, Child Advocacy Center, UPMC Children's Hospital of Pittsburgh; director, Child Abuse Research, Safar Center for Resuscitation Research, University of Pittsburgh; professor of pediatrics, School of Medicine, University of Pittsburgh

#### Esther Bush.

former president, Urban League of Greater Pittsburgh

#### Alexandra Chouldechova,

assistant professor of statistics and public policy, Heinz College of Information Systems and Public Policy, Carnegie Mellon University

#### David Danks,

professor of data science and philosophy, University of California, San Diego

#### Ángel Díaz,

visiting assistant professor of law, University of Southern California

#### Courtney Ehrlichman,

CEO, The Ehrlichman Group

#### Rosta Farzan,

associate professor, School of Computing and Information, University of Pittsburgh

#### Sara Goodkind,

professor, School of Social Work; Department of Sociology; and Gender, Sexuality, and Women's Studies Program, University of Pittsburgh

#### Ellen Goodman,

distinguished professor of law; School of Law; Rutgers, the State University of New Jersey

#### **David Harris**,

Sally Ann Semenko Endowed Chair and professor, School of Law, University of Pittsburgh

#### David Hickton,

founding director, Institute for Cyber Law, Policy, and Security, University of Pittsburgh

#### Yu-Ru Lin,

associate professor, School of Computing and Information, University of Pittsburgh

#### Sharon McDaniel,

founder, president, and CEO, A Second Chance

#### Michelle McMurray,

vice president of program and community engagement, The Pittsburgh Foundation

#### Mark A. Nordenberg,

chair, Institute of Politics; Distinguished Service Professor of Law, School of Law; chancellor emeritus, University of Pittsburgh

#### Beth Schwanke,

executive director, Institute for Cyber Law, Policy, and Security, University of Pittsburgh

#### LaTrenda Sherrill,

lead consultant, Common Cause Consultants; former deputy chief (education), Office of the Mayor, City of Pittsburgh

#### Michael Skirpan,

executive director, Community Forge; special faculty, Department of Philosophy, Dietrich College of Humanities and Social Sciences, Carnegie Mellon University

#### Nyssa Taylor,

criminal justice policy counsel, ACLU of Pennsylvania

#### Frederick Thieman,

Henry Buhl Jr. Chair for Civic Leadership, Buhl Foundation; assistant treasurer and member of the Finance, Audit, and Facilities Committee, Community College of Allegheny County Board of Trustees; former U.S. attorney for the Western District of Pennsylvania

Task force members are serving in their individual capacity.

# **Government Advisory Panel**

The task force is served by an advisory panel composed of designees from Allegheny County and the City of Pittsburgh.

#### Chris Belasco,

manager, data services, Department of Innovation and Performance, City of Pittsburgh

#### Erin Dalton,

director, Department of Human Services, Allegheny County

#### T. Matthew Dugan,

chief public defender, Allegheny County Office of the Public Defender

#### Joanne Foerster,

director of performance and analytics, Allegheny County

#### Heath Johnson,

manager, crime analysis, Pittsburgh Bureau of Police

#### Laura Meixell,

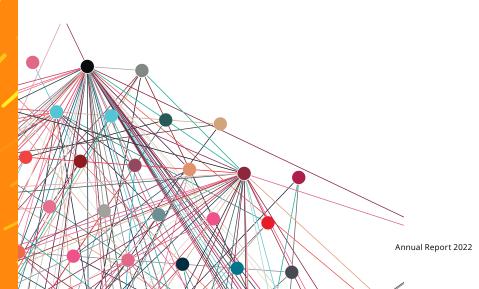
enterprise data architect, Department of Human Services, Allegheny County

#### Shatara Murphy,

assistant director, community affairs, Department of Public Safety, City of Pittsburgh

# Pitt Cyber is grateful for the support

of The Heinz Endowments and the Hillman Foundation for this work.



## **Pitt Disinformation Lab**

A year after its launch, the Pitt Disinformation Lab (PDL) continues its research and programming to build resilience to the disinformation that threatens our health, undercuts our security, and undermines our democracy.



more remain.



# Creating Resilience Against **Election Disinformation**

PDL worked to strengthen resilience in Pennsylvania against false narratives about our elections, through research, events, and targeted efforts to inoculate against anticipated election disinformation with accurate information about Pennsylvania's election administration and how disinformation works.



#### Click the play button above to watch "Behind Your Ballot" featuring Lara Putnam.

PDL researcher Lara Putnam took a star turn in made-for-social media videos explaining common tactics and narratives PDL research anticipated Pennsylvanians should expect in the run-up to the 2022 mid-term elections.



Watch the "Behind the Ballot" series on YouTube.



PDL also worked closely with partners such as the Committee of Seventy to provide public resources about Pennsylvania's election administration process, including developing infographics and events about election security, ballot processing, election certification and more.

## Building@Local Trust

PDL is piloting efforts across multiple segments of the population to build resiliency to disinformation in those populations and to further our own understanding of information ecosystems and successful interventions.

PDL is partnering with community leaders to identify locally led, innovative ways to build resilience to disinformation. Working with school districts, civic organizations, mayors, public libraries and more, PDL is on the ground strengthening information ecosystems and helping communities create their own efforts to build their own efforts.

# **Disrupting Health** Disinformation

Led by Health Sciences Library System's Research and Instruction Librarian Rebekah Miller, a team of PDL researchers and colleagues received a Seed Grant from the Office of the Chancellor to develop open education resources for undergraduate nursing education focused on mitigating mis- and disinformation in a patient-care setting.

# Pitt Cyber is grateful for the support

of The Henry L. Hillman Foundation, the Steven D. Manners Research Development Award. and the Year of Data and Society for the Pitt Disinformation Lab.



# Securing Your Vote: Pennsylvania's 2022 Election

Pitt Cyber and the Institute of Politics continued to partner by hosting a series of special events discussing approaches to election security, disinformation, and preparations for the 2022 elections—and what those approaches meant for American democracy.

Pitt Cyber Founding Director David Hickton spoke with experts about Pennsylvania's election administration, as well as challenges to our elections and to democracy posed by disinformation. Joining Hickton in conversation were Acting Secretary of the Commonwealth Leigh Chapman; Professor of History and Pitt Disinformation Lab Researcher Lara Putnam; and President and CEO of the Committee of Seventy Al Schmidt.



# Congressman Jamie Raskin in Conversation

Congressman Raskin of Maryland joined Founding Director David Hickton for a wide-ranging discussion of threats to American elections and democracy—and his optimism for the American experiment.



# **Building Secure Elections**

Matt Masterson spoke with Founding Director Hickton about disinformation and threats to American elections and democracy. Masterson serves as director of information integrity at Microsoft and was previously senior cybersecurity advisor at the Department of Homeland Security and served as a commissioner at the Election Assistance Commission.



eport 2022 11



# Air Force Association CyberPatriot Camp

Pitt Cyber hosted its sixth annual Air Force Association Cyber Camp for high school students in summer 2022 in partnership with Pitt Information Technology and with support from EQT Foundation, The Grable Foundation, AT&T, and UPMC Women in IT.

The camp is a pillar of Pitt Cyber's efforts to expand an inclusive pipeline for future technologists and is free for all students.

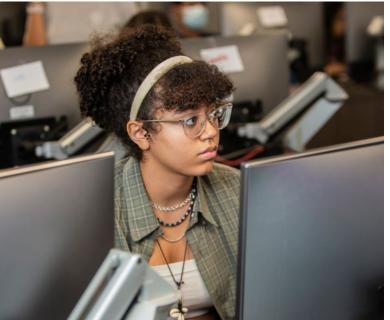
The camp inspires students to take an interest in cybersecurity and other STEM fields. The interactive curriculum is focused on cyber ethics, systems security, and network security.

This year saw 180 students from across Pittsburgh joining us with instructors from regional high schools, the University of Pittsburgh, and corporate volunteers. After two years of virtual camp, we were excited to return in person. Pitt Cyber continued its partnership with Pitt's Community Engagement Center in the Hill District to offer camp classrooms as part of the center's summer programming for students.







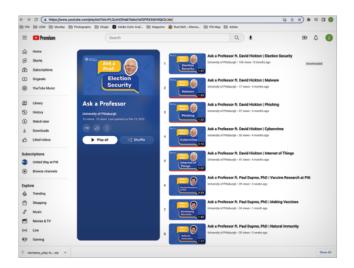


#### **Ask a Professor**

Pitt Cyber's Founding Director David Hickton developed a series of short videos with Pitt's Office of University Communications and Marketing to share information and ideas about technology that often can be confusing. From ransomware to election security to algorithms, Hickton shared his expertise with an increasing audience at Pitt and beyond. Additional faculty members from across the University are now joining the series.



Watch the "Ask a Professor" series on YouTube.





Click the play button above to watch "Ask a Professor with David Hickton — Election Security".



We launched the Pitt Cyber Accelerator Grants (PCAG) program in 2018 to provide initial funding for novel and innovative projects that advance Pitt Cyber's mission: to bring the breadth of one of the world's leading public research universities to bear on the critical questions of networks, data, and algorithms, with a focus on the everchanging gaps among law, policy, and technology.

PCAG funding is used to advance projects that establish and extend key intellectual infrastructures, such as research and teaching in methods with broad application and utility across disciplines, and projects that bring together researchers across fields of interest.

### 2022 Recipients

#### Utilizing Edutainment and Motivational Interviewing to Address Dis- and Misinformation in the Health Care Setting

This project brings together collaborators to develop and implement a seminar for physician assistant students. The seminar will use clips from popular medical television shows to teach students about responding to dis- and misinformation in the health care setting using motivational interviewing.

**Beth Hoffman**, postdoctoral associate, Behavioral and Community Health Sciences, School of Public Health

Jaime Sidani, assistant professor of medicine, Center for Research on Behavioral Health, Media, and Technology, Division of General Internal Medicine, School of Medicine

Anna Donovan, associate professor of medicine and associate program director for the Internal Medicine Residency Training Program at UPMC

**Antoine Douaihy**, senior academic director of Addiction Medicine Services and codirector of UPMC Tobacco Treatment Services

**Bridget Calhoun**, associate dean for academic affairs, Duquesne University

**Ariel Shensa**, assistant professor, Rangos School of Health Sciences, Duquesne University

#### Investigating Adoption and Reusability of Data and Digital Literacy Materials

This project will examine adoption and reuse of data and digital literacy open educational resources for library professionals.

**Elizabeth Monk**, research specialist, University Center for Social and Urban Research

**Jessica Ghiliani**, associate professor of communication, University of Pittsburgh at Greensburg

**Chelsea Gunn**, teaching assistant professor, Department of Information Culture and Data Stewardship, School of Computing and Information

**Eleanor Mattern**, teaching assistant professor, School of Computing and Information

**Veena Vasudevan**, assistant professor, digital media and learning, School of Education

#### Online Violence Against Women in Politics (Online VAW-P)

As women's participation in politics increases, so does their risk of becoming victims of political violence. The Online Violence Against Women in Politics (Online VAW-P) project will investigate this new and growing threat against women politicians and political candidates by documenting the extent and scope of online violence that women politicians face on Twitter in two countries—Turkey and Brazil—during the six months leading up to national elections.

Mihriban Finkel, assistant professor of international development, director of the Ford Institute for Human Security, and codirector of the Gender Inequality Research Lab, Graduate School of Public and International Affairs

**Keila Grinberg**, professor, Department of History, Kenneth P. Dietrich School of Arts and Sciences

**Steven Finkel**, Daniel H. Wallace Professor of Political Science, Kenneth P. Dietrich School of Arts and Sciences

**Lisa Nelson**, associate professor, Graduate School of Public and International Affairs

# Sustaining the Scholarly Information Ecosystems Community at Pitt

This grant will establish an infrastructure to support and extend the established informal network of information and digital studies among Pitt faculty, staff, and students. Through a more unified "Information Ecosystems" community network supported by a website and communications channels, existing members of this scholarly ecosystem will be able to share events and research and pedagogical interests with one another.

**Nora Mattern,** assistant teaching professor and director of the Sara Fine Institute, School of Computing and Information

**Annette Vee**, associate professor of English and director of the Composition Program, Department of English, Kenneth P. Dietrich School of Arts and Sciences

**Alison Langmead,** clinical associate professor, director of the Visual Media Workshop and associate professor, School of Computing and Information

#### Metaverse in Global East Asia: Digital Privacy and Economic Inclusion

This project seeks to explore how social and cultural differences lead to various Metaverse-related challenges on policies of digital privacies and economies, with a special focus on how East Asian governments, corporations, and users respond to these challenges differently than the United States.

**Song Shi,** visiting assistant professor, Department of Informatics and Networked Systems, School of Computing and Information

**Kun Qian,** associate professor of modern Chinese literature and film, Kenneth P. Dietrich School of Arts and Sciences **Kay Shimizu**, assistant professor, Graduate School of Public and International Affairs

**Kuo-Ting Huang,** assistant professor, School of Computing and Information

#### Towards an Adaptive Voice User Interface of Navigation Apps for People with Disabilities

This project will design an adaptive voice user interface (VUI) for navigation apps that meets People with Disabilities (PwD)'s needs and preferences by exploring a variety of navigation scenarios. Navigation apps with an adaptive VUI can help PwD improve their quality of life and social independence by being able to perform mobility activities easier and more frequently.

**Na Du,** assistant professor, Department of Informatics and Networked Systems, School of Computing and Information

**Hassan Karimi,** professor, School of Computing and Information

**John McInerney,** advocate stakeholder, Pittsburgh Low Vision Research Collaborative

#### A Sampling and Modeling Framework to Counter Online Conspiratorial Propaganda

In recent years, conspiratorial narratives targeting a certain social group or racial demographic have been cited as a motivation for a number of hate- or prejudice-based violent incidents in the U.S. and across the globe. This project aims to trace and counter the influence of conspiratorial propaganda on the public in online space by studying the population-level networks.

**Yu-Ru Lin,** associate professor, School of Computing and Information

**Balaji Palanisamy,** associate professor, School of Computing and Information

# 2022 Accelerator Grant Recipients continued

**Michael Colaresi**, associate vice provost for data and science

**Amin Rahimian,** assistant professor, Swanson School of Engineering

#### Analyzing Information Ecosystems in Western Pennsylvania

This effort intends to develop key data infrastructure and analysis protocols for significant disinformation flows in Western Pennsylvania, including related to vaccinations and election administration for the Pitt Disinformation Lab.

Michael Colaresi, associate vice provost for data and science, William S. Dietrich II Chair, Department of Political Science, Kenneth P. Dietrich School of Arts and Sciences; research and academic director, Institute for Cyber Law, Policy, and Security; affiliate scholar, Intelligent Systems Program, School of Computing and Information

**Jessica Ghilani**, associate professor of communication, University of Pittsburgh at Greensburg

**Lara Putnam,** University Center for International Studies Research Professor, professor of history, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh

#### Covid Disinformation in Western Pennsylvania and Rio de Janeiro Seminar Development

Development of a seminar for researchers at the Pontifical Catholic University of Rio de Janeiro and the University of Pittsburgh for the development of a collaboration to estimate the causal effect of disruptive vaccine disinformation on avoidable deaths

**Keila Grinberg**, director, Center for Latin American Studies, professor of history, Department of History, University of Pittsburgh

#### Scaling Up Cyber Physical Systems Security Education -From Theory to Practice

To develop a testbed that integrates with Pitt's Cyber Range and allows students to work together to explore how cyber-physical systems can be attacked and defended

**Ahmed Ibrahim**, teaching assistant professor, School of Computing and Information

**Daniel Cole,** associate professor, Swanson School of Engineering; director, Stephen R. Tritch Nuclear Engineering Program, Swanson School of Engineering, University of Pittsburgh

#### Hour of Code and CEC/English Community Liaison and Digital Infrastructure

To continue building the infrastructure to bring Hour of Code events to four 10th graders from under-resourced schools in Homewood

**Gayle Rogers,** Andrew W. Mellon Professor, chair, Department of English, Kenneth P. Dietrich School of Arts and Sciences

Jessica FitzPatrick, teaching assistant professor, director, Digital Narrative and Interactive Design Program, Department of English, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh

#### Modeling Threats to Sustainability of Social Networks as Critical Infrastructure

To develop a proof-of-concept for analyzing the coevolution of systematic threats under a unifying framework

**Amin Rahimian,** assistant professor, Swanson School of Engineering

**Jacob Otto,** PhD student, political science, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh

#### Extended Reality Tour of a Media Archaeology Lab to Widen Access to Material Resources Representing a History of Technology

To design and implement an extended reality (XR) tour of the Media Archeology Lab (MAL) at University of Colorado Boulder to enable Pitt learners to virtually access MAL's rich media holdings

Jessica FitzPatrick, teaching assistant professor, director, Digital Narrative and Interactive Design Program, Department of English, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh

**Libi Striegl,** lab manager, Media Archeology Lab, University of Colorado Boulder

**Annette Vee,** associate professor of English and director, Composition Program, Department of English, Kenneth P. Dietrich School of Arts and Sciences

**Dmitriy Babichenko,** clinical associate professor, School of Computing and Information, University of Pittsburgh

#### **Studying Trust in Civic Data** Portals and its Potential for **Enhancement**

To develop a better understanding of how intermediary organizations can enhance the trustworthiness of civic data, the proposed project will also help to identify research questions that can be explored in collaboration with Pitt faculty.

David Walker, lead software developer, Western Pennsylvania Regional Data Center, University Center for Social and Urban Research

Jacob Biehl, assistant professor, School of Computing and Information, University of Pittsburgh

Robert Gradeck, project director, Western Pennsylvania Regional Data Center, University Center for Social and Urban Research, University of Pittsburgh

## **Honors and Awards**

Pitt Cyber affiliate scholars' scholarship and teaching continued to receive recognition across the University and beyond. Here are some highlights:

Affiliate Scholar Mai Abdelhakim. Swanson School of Engineering, was elevated to IEEE Senior Membership.

Affiliate Scholar James Joshi, School of Computing and Information, was elevated to IEEE Fellow Status and selected as IEEE Computer Society Golden Core member. Joshi also was appointed cochair of the Fast-Track Action Committee for National Digital Assets R&D Agenda, Networking and Information Technology Research and Development (NITRD), as well as cochair of the Fast-Track Action Committee on Advancing Privacy Preserving Data Sharing and Analytics, NITRD; cochair of Privacy R&D Interagency Working Group of the NITRD Program, and colead of the US-UK Privacy Enhancing Technology Prize Challenge.

Affiliate Scholar Audrey I. Murrell, Joseph M Katz Graduate School of Business, was named associate editor for Equality, Diversity and Inclusion: An International Journal and appointed to the National Roundtable on Mentorship, Well-Being and Professional Development for the National Academies of Sciences, Engineering, and Medicine. She also received the Innovation Toward Student Success award from the Suitable organization.

## **Publications**

Pitt Cyber's affiliate scholars published widely in 2022, including the following:

"Middle School Students" **Experiences with** Cyberbullying and **Perspectives Toward Prevention and Bystander** Intervention in Schools." Journal of School Violence. Accepted. | Biernesser C, Ohmer M, Mann E, Nelson L, Farzan R,

Schwanke B, Radovic A.

"Virtual Coset **Coding for Encrypted Non-Volatile Memories** with Multi-Level Cells" | HPCA 2022 | Stephen Longofono, Seyed Mohammad Seyedzadeh, Alex K. Jones

"Are Mutated Misinformation More Contagious? A **Case Study of COVID-19** Misinformation on Twitter." In Proceedings of Web Science 2022 (WebSci 2022), 2022 | Yan, M., Chung, W., & Lin, Y.

"Characterizing User **Susceptibility to COVID-19** Misinformation on Twitter." In Proceedings of the 16th International AAAI Conference on Web and Social Media (ICWSM 2022), 2022. AAAI | Teng, X., Lin, Y., Chung, W., Li, A., & Kovashka, A.

#### "Visual Persuasion in COVID-19 Social Media Content: A Multi-Modal Characterization."

In Companion Proceedings of the Web Conference 2022 (WWW '22 Companion), 2022. ACM | Mesut Erhan, U., Kovashka, A., Chung, W., & Lin, Y.

#### "Whose Advantage? Measuring Attention Dynamics across YouTube and Twitter on Controversial Topics."

In Proceedings of the 16th International AAAI Conference on Web and Social Media (ICWSM 2022), 2022. AAAI | Ertugrul, A. M., Lee, J., Wu, S., Lin, Y., & Xie, L.

#### "Tribe or Not? Critical Inspection of Group Differences Using TribalGram."

ACM Transactions on Interactive Intelligent Systems (TiiS), 12(1): 1–34. 2022 | Ahn, Y., Yan, M., Lin, Y., Chung, W., & Hwa, R. Our Data, Ourselves: A Personal Guide to Digital Privacy by Jacqueline D. Lipton, University of California Press (2022)

#### Our Data, Ourselves: A Personal Guide to Digital Privacy by Jacqueline D. Lipton, University of California Press (2022)

#### "Too Much of a Good Thing? A Governing Knowledge Commons Review of Abundance in Context,"

Frontiers in Research Metrics and Analytics Sec. Research Policy and Strategic Management (13 July 2022) DOI: 10.3389/ frma.2022.959505 | Mike Madison with Brett M. Frischmann, Madeyn R. Sanfilippo, and Katherine J. Strandburg

# "Government by Code? Blockchain Applications to Public Sector Governance,"

Frontiers in Blockchain 5:869665 (21 June 2022) DOI: 10.3389/ fbloc.2022.869665 |Mike Madison with Pedro Bustamante, Meina Cai, Marcela Gomez, Colin Harris, Prashant Krishnamurthy, Wilson Law, Ilia Murtazashvili, Jennifer Brick Murtazashvili, Tymofiy Mylovanov, Nataliia Shapoval, Annette Vee, and Martin Weiss

"Blockchain Networks as Knowledge Commons," Int'l J. of the Commons 16:108–119 (16 June 2022) DOI: 10.5334/ijc.1146 | Mike Madison with Ilia Murtazashvili, Jennifer B. Murtazashvili, and Martin B.H. Weiss

"Ostrom amongst the Machines: Blockchain as a Knowledge Commons," Cosmos + Taxis 10:3+4 1-15 (2022) | Mike Madison with Herminio Bodon, Pedro Bustamante, Marcela Gomez, Prashant Krishnamurthy, Ilia Murtazashvili, Jennifer Murtazashvili, Tymofiy Mylovanov, and Martin Weiss

"The Presentation of Self in Virtual Life: Disinformation Warnings and the Spread of Misinformation Regarding COVID-19," RSF: The Russell Sage Foundation Journal of the Social Sciences (December 2022) | Kevin T. Leicht, Joseph Yun, Brant Houston, Loretta Auvil, Eamon Bracht

# Selected Programming and Events

**Prediction and the Law with Megan Stevenson**, hosted by the
University of Pittsburgh Center for
Governance and Markets and Pitt
Cyber | December 8, 2022

#### Global Landscape and Geopolitics of Space, featuring General David D. Thompson,

hosted by the University of Pittsburgh Matthew B. Ridgway Center for International Security Studies and Pitt Cyber | December 1, 2022

Impact of the Midterm
Election on Pennsylvania's
Business Climate and Health
of Our Democracy, hosted by
Business for America, featuring Lara
Putnam | November 15, 2022

Leadership: Making an Impact by Serving Others with FBI Supervisory Special Agent Vineet Gill, hosted by the Graduate School of Public and International Affairs and Pitt Cyber | November 10, 2022

**Coffee Chat: Careers in Cybersecurity**, hosted by
Pitt Cyber and the School of
Computing and Information |
November 3, 2022

# Elections in Focus: Auditing and Certification of Elections,

hosted by Pitt Cyber in partnership with Committee of Seventy and All Voting is Local | November 2, 2022

#### The Shaping of Our Political Landscape: Technology, Disinformation & Polarization,

hosted by Heinz College Deliberate Discourse Initiative, Carnegie Mellon University, featuring Beth Schwanke | November 1, 2022 **How Can Algorithms Be Ethical? Finding Solutions Through Dialogue**, hosted by the 2022 Tech Ethics Symposium, featuring Beth Schwanke | October 28, 2022

**Elections in Focus: Processing** and Counting Ballots, hosted by Pitt Cyber in partnership with Committee of Seventy and All Voting is Local | October 26, 2022

**Election Laws & Lies: What You** Need to Know in 2022, hosted by Haverford Democrats, feat. Jessica Ghilani | October 20, 2022

**Elections In Focus: Safeguards In Mail-In Voting**, hosted by Pitt Cyber in partnership with Committee of Seventy and All Voting is Local | October 19, 2022

The Art and Science of Election Polling, featuring G. Elliott Morris with a response by Michael Colaresi, hosted by the University of Pittsburgh Center for Governance and Markets and Pitt Cyber | October 18, 2022

#### **Securing Your Vote:** Pennsylvania's 2022 Elections,

hosted by Pitt Cyber and the Institute of Politics | October 11, 2022

**Lessons Learned and Insights** on Government Use of **Algorithms from the Municipal** Perspective, hosted by MITRE Chief Data Officer Summit, featuring Beth Schwanke | October 6, 2022

**Cybersecurity Electric Grid Summit**, sponsored by U.S. HART RX5 Cyber Center and Protect Our Power, featuring David Hickton | September 30, 2022

#### The Earth Is Flat (On Our Screens): How Democracy is **Disrupted by Disinformation** and Digital Illusions of Information and Control,

hosted by the Dr. Bernard Cobetto Lecture Series on Contemporary Ethical Issues, featuring Michael Colaresi | September 28, 2022

Misinformation: Is It Driving Violent Extremism and How Can It Be Countered, hosted by the Eradicate Hate Global Summit, featuring Michael Colaresi | September 20, 2022

**How Authoritarian Governments Are Influencing** Pennsylvania Elections, hosted by Pitt Cyber, the Pittsburgh World Affairs Council, and the Alliance for Securing Democracy | July 27, 2022

The Rise of Mis/Disinformation and its Effects on Pennsylvania Voters, hosted by Pitt Cyber, the Pittsburgh World Affairs Council, and the Alliance for Securing Democracy | July 26, 2022

Democracy and Disinformation, Lara Putnam, keynote speaker, Pennsylvania State Mayors' Association **2022 Conference**, hosted by Pennsylvania State Mayors' Association | July 22, 2022

Air Force Association Cyber **Camp**, hosted by Pitt Cyber and Pitt Information Technology | July 18, 2022

Responsible Technology **Summit**, hosted by Partnership to Advance Responsible Technology (PART), featuring Michael Colaresi and Lara Putnam | June 14, 2022

#### **Protecting Democracy and** Securing Our Elections,

featuring Congressman Jamie Raskin and Pitt Cyber Founding Director David Hickton | May 20, 2022

Disinformation, Disruption and the Destabilization of **Democracies with Michael Colaresi**, presented by the Dick Thornburgh Forum for Law & Public Policy | May 9, 2022

PA Broadband Symposium in partnership with Pitt Information Technology, featuring David Hickton | April 22, 2022

**Pittsburgh Women Leading** Privacy Presented by **International Association of Privacy Professionals**, featuring Beth Schwanke | April 1, 2022

Understanding the Uses and **Abuses of Machine Learning** in Democratic Systems with **Michael Colaresi**, presented by the Collaboratory Against Hate Speaker Series | March 29, 2022

**Protecting Democracy and Securing Our Elections with** Matt Masterson and David **Hickton**, presented by Pitt Cyber and the Institute of Politics | March 15, 2022

Infrastructure & Identities: The Many Lives of the SSN with Dr. Sara Igo, presented by the Forbes Corridor Colloquia at Pitt Cyber | February 17, 2022

**Smart Homes**, featuring Pennsylvania State Representative Dan Miller, Professor Michael Madison, and Lorrie Cranor, DSc | January 20, 2022

#### In the News

Pittsburgh, Get Ready to Vote: **Meet Your Nominees for the** 2022 Technical.ly Awards

Technical.ly | December 2, 2022

**Election Security a Success,** but More Improvements Needed, Experts Say | The Hill | November 29, 2022

**How to Reduce Citizen Harm from Automated Decision Systems** | GCN | November 16, 2022

Why We Need to Say No to **Vigilantism After Election** Day Too | Pennsylvania's Capital Star | November 7, 2022

1.4 Million Pennsylvanians Asked to Vote by Mail. Here's **What That Means for Election** Week 2022 Counting | Spotlight PA | November 3, 2022

**US Midterms: On the** Doorsteps in Pennsylvania, a Hint that Momentum is **Shifting Towards Republicans** | The Irish Times | October 25, 2022

**Speaker Series Seeks** to Combat Election Misinformation In Pennsylvania | Bucks County Beacon | October 24, 2022

**Targeted with Death** Threats, GOP Election **Overseer Now Works to Defend Voter Integrity |** Pittsburgh Post-Gazette | October 23, 2022

The 2022 Midterms Are Here. What Did Pennsylvania **Learn about Election Security** from 2020? | Technical.ly | October 19, 2022

**Getting the World-Class Cybersecurity Workforce** America's Electric Grid **Needs** | Lexington Institute | September 28, 2022

**Pitt-Greensburg's Cobetto Lecture on Disinformation** and the Threat to **Democracy** | Latrobe Bulletin | September 21, 2022

**Back to School: Experts Share** Online Safety Tips | CBS Pittsburgh | August 18, 2022

**Bound by Social Media, How** PA is Fanning the Flames of the Next Insurrection | Pennsylvania Capital-Star | August 17, 2022

**Pitt Brings Cybersecurity Concepts to Local High School Students During 6th Annual** CyberCamp | PittWire | August 11, 2022

**Information Manipulation and** the Role It Could Play In Our Upcoming Election | WESA | July 27, 2022

**Hackers Target PNC Customers** with Fraudulent Texts | WTAE | July 19, 2022

**Trump's 2020 Outrage Drives** Fear of 'Insider' Election **Threats** | The Hill | July 14, 2022

In Fighting Disinformation, What Could 'Responsible' Uses of Technology Look Like? | Technical.ly | June 16, 2022

**Pittsburgh Cybersecurity** Industry — Driving the Future | PITTSBURGHINNO | June 2, 2022

**KNX In Depth with Mike Simpson and Charles Feldman** | KNX News 97.1 FM | June 2, 2022

**RealLIST Connectors: These** Are The 100 Influential **Leaders to Know In Pittsburgh Tech** | Technical.ly | June 1, 2022

**PA Post-Primary Election** Roundtable | WHYY | May 18, 2022

**Former US Attorney Calls Mass Shootings 'Organized Domestic** Terrorism' | CBS Pittsburgh | May 17, 2022

Justice Department, Homeland **Security Tell Business Owners** to be Watchdogs for Their **Computer Networks** Post-Gazette | April 13, 2022

Why Did Child Porn Come **Up in the Supreme Court** Confirmation Hearings? | Opinion | The Philadelphia Inquirer | March 29, 2022

'Really came together': Pitt **Community Reflects On 2012 Bomb Threats** | The Pitt News | March 18, 2022

**How Should Local Governments Approach Al** and Algorithms? | Government Technology | March 18, 2022

**Cybersecurity Will Play a Major Role in Controlling Election Disinformation, This Expert** Told Pitt Cyber | Technical.ly | March 16, 2022

**David Hickton and LaTrenda Sherrill with Chris Moore** | KDKA News Radio | March 14, 2022

# **Op-Eds**

**Facebook Has a Child** Predation Problem | WIRED | March 14, 2022

**Countering Misinformation/ Disinformation in Your** Community | PaLa | March 14, 2022

**How Can Municipal Gov Better Use Public Algorithms?** Pitt Cyber has Some Ideas Technical.ly | March 10, 2022

**After Ottawa, Trucker Convoy Near Washington Is a Low-Key Protest** | The New York Times | March 10, 2022

David J. Hickton: Report for **Region: People Must Have** Voice, Stake in Algorithms | Post- Gazette | March 10, 2022

**Pitt Task Force Calls for** Transparency, Public Input When Government Agencies Use Algorithms | WESA | March 10, 2022

**Unintentional Harm: Pitt Issues Report on Algorithm Use** | WTAE | March 10, 2022

**A New Pitt Cyber Report Shows How Policymakers** and the Public Can Address Bias in Algorithms | PittWire | March 9, 2022

A Much-Needed Model for **Monitoring Government** Algorithms | The Hill | March 9, 2022

**Local Canadian Convoy Support Builds on Years of Disinformation** | The Hill | February 24, 2022

Cyber Laws and Security | The KDKA Radio Morning Show with Larry Richert and Kevin Battle | February 17, 2022

**Pittsburgh Pediatrician Uses TikTok to Fight Against Vaccine** Misinformation | WTAE | February 11, 2022

**COVID lockdowns might not** have prevented deaths--Bill in Sacramento takes on guns, school shootings and privacy--Hate crimes in LA--What is cancel culture? | KNX In Depth | February 3, 2022

The Jan. 6 Capitol Riot: A Complete Guide to What We **Know about Pennsylvania's** Role | Spotlight PA | January 6, 2022

**FBI Agent and Former Prosecutors Explain Why** So Many People From PA Were Involved in Jan. 6 Capitol Riots | KDKA | January 6, 2022

**How Emotions Fuel Fake News** on Social Media | Pittwire | January 4, 2022

Why We Need to Say No to **Vigilantism After Election Day Too** | Pennsylvania's Capital Star by Lara Putnam | November 7, 2022

Why Did Child Porn Come **Up in the Supreme Court** Confirmation Hearings? | Opinion - The Philadelphia Inquirer | March 29, 2022

**Report for Region: People Must Have Voice, Stake in Algorithms** | Pittsburgh Post-Gazette by David Hickton | March 10, 2022

A Much-Needed Model for **Monitoring Government Algorithms** | The Hill by David Hickton | March 9, 2022

**Local Canadian Convoy Support Builds on Years of Disinformation** | The Hill by Michael Colaresi, Lara Putnam, and Beth Schwanke | February 24, 2022

# **People**

#### **Institute Staff**

**David Hickton,** founding director; professor of law

Beth Schwanke, executive director

**Michael Colaresi,** associate vice provost for data and science, William S. Dietrich II Chair of Political Science

**Sarah Barca**, administrative director

**Kate Ulreich,** information technology consultant, with thanks to the generosity of Pitt Information Technology

## **Affiliate Scholars**

Pitt Cyber's Affiliate Scholars are faculty members drawn from across the University.

**Kevin C. Abbott**, professor of practice, School of Law

**Mai Abdelhakim,** assistant professor, Swanson School of Engineering

**Malihe Alikhani**, assistant professor, School of Computing and Information

**Kevin D. Ashley,** professor of law, School of Law

**Amy Babay,** assistant professor, School of Computing and Information

**Dmitriy Babichenko**, clinical associate professor, School of Computing and Information

**Mostafa Bedewy,** assistant professor, Swanson School of Engineering

**Candice Biernesser,** postdoctoral scholar, Department of Psychiatry, School of Medicine

**Tinukwa Boulder,** associate professor of practice in digital media for learning, Department of Teaching, Learning, and Leading, School of Education

**Ronald A. Brand,** Mark A. Nordenberg University Professor; John E. Murray Faculty Scholar; and academic director, Center for International Legal Education, School of Law

**Matt Burton,** lecturer, School of Computing and Information

**Judy L. Cameron,** professor of psychiatry, neuroscience, obstetricsgynecology reproductive sciences, clinical and translational science, and behavioral and community health sciences

**Bruce R. Childers,** associate dean for strategic initiatives; professor of computer science, School of Computing and Information

**Judith Chun-Hsu Yang,** William Kepler Whiteford Professor, Swanson School of Engineering

**William W. Clark,** professor, Swanson School of Engineering

**Dan Cole,** associate professor and director of the Stephen R. Tritch Nuclear Engineering Program, Swanson School of Engineering

**Mary Crossley,** professor of law, School of Law

**Stephanie Dangel,** professor of practice, School of Law

**Na Du,** assistant professor, Department of Informatics and Networked Systems, School of Computing and Information

**Rosta Farzan,** associate professor, School of Computing and Information

Morgan R. Frank, assistant Professor, Department of Informatics and Networked Systems, School of Computing and Information

**Lindsey French**, visiting assistant professor, Kenneth P. Dietrich School of Arts and Sciences

**Wei Gao,** associate professor, Swanson School of Engineering

**Michael Goodhart,** professor, Kenneth P. Dietrich School of Arts and Sciences

**Max Goplerud,** assistant professor of political science, Kenneth P. Dietrich School of Arts and Sciences

**Melinda Haas,** assistant professor, Graduate School of Public and International Affairs

**Joel M. Haight**, associate professor of industrial engineering, Swanson School of Engineering

**David A. Harris,** John E. Murray Faculty Scholar, professor of law, School of Law

**Daqing He,** associate chair, Department of Informatics and Networked Systems, professor, School of Computing and Information

**Harry Hochheiser,** associate professor, School of Medicine

**Jingtong Hu,** assistant professor, Swanson School of Engineering M. Zia Hydari, assistant professor of business administration, Joseph M. Katz Graduate School of Business

**Ahmed Ibrahim**, teaching assistant professor, School of Computing and Information

Alex Jones, professor; associate director, NSF Center for Space, High-Performance, and Resilient Computing, Swanson School of Engineering

Kate Joranson, head librarian, University Library System

James Joshi, professor, School of Computing and Information

Jennifer Keating, senior lecturer and writing in the disciplines specialist, Institute for Writing Excellence, Kenneth P. Dietrich School of Arts and Sciences

Michael Kenney, associate professor, program director of international affairs. Graduate School of Public and International Affairs

Mario Khreiche, postdoctoral researcher, Kenneth P. Dietrich School of Arts and Sciences

Charles T. Kotuby Jr., professor of practice, School of Law; executive director, Center for International Legal Education, School of Law

Maria Kovacs, professor, School of Medicine

Adriana Kovashka, assistant professor, Department of Computer Science, School of Computing and Information

**Prashant Krishnamurthy,** professor, School of Computing and Information

Howard A. Kuhn, adjunct professor, Swanson School of Engineering

John R. Lange, assistant professor, School of Computing and Information

Alison Langmead, clinical professor and director, Visual Media Workshop, Department of History of Art and Architecture, Kenneth P. Dietrich School of Arts and Sciences; associate professor, School of Computing and Information

Adam J. Lee, associate dean and associate professor, School of Computing and Information

Stephen Lee, assistant professor, **School of Computing** and Information

Yu-Ru Lin, associate professor, School of Computing and Information

Sera Linardi, assistant professor, Graduate School of Public and **International Affairs** 

Jacqueline Lipton, assistant professor of legal writing, School of Law

Michael J. Madison, faculty director, Innovation Practice Institute; professor of law, School of Law

Eleanor Mattern, teaching assistant professor; director, Sara Fine Institute, School of Computing and Information

Lucas Mentch, assistant professor, Department of Statistics, Kenneth P. Dietrich School of Arts and Sciences

Leona Mitchell, professor of practice, School of Computing and Information; founding director, Professional Institute, School of Computing and Information

Daniel Mosse, professor, School of Computing and Information

Audrey J. Murrell, associate dean; director, David Berg Center for Ethics and Leadership, College of **Business Administration** 

Lisa S. Nelson, associate professor, Graduate School of Public and International Affairs

Mary L. Ohmer, associate professor, School of Social Work

Erica Owen, associate professor and associate dean, **Graduate School of Public** and International Affairs

Balaji Palanisamy, professor, School of Computing and Information

Jennifer Petrie, assistant director and adjunct faculty, Joseph M. Katz Graduate School of Business and College of Business Administration

Lara Putnam, University Center for International Studies Research Professor, Department of History, Kenneth P. Dietrich School of Arts and Sciences

Cassie F. Quigley, associate department chair and associate professor of science education, Department of Teaching, Learning, and Leading, School of Education

Stephen Quigley, lecturer, Department of English, Kenneth P. Dietrich School of Arts and Sciences

Ana Radovic, assistant professor of pediatrics, School of Medicine

Amin Rahimian, assistant professor, Swanson School of Engineering

**Gregory Reed**, director, Center for Energy and Energy Grid Institute, Swanson School of Engineering

#### Affiliate Scholars, continued

**Anthony Rodi,** clinical associate professor of business administration, Joseph M. Katz Graduate School of Business and College of Business Administration

**Gayle Rogers,** Andrew W. Mellon Professor and Chair of English, Department of English, Kenneth P. Dietrich School of Arts and Sciences

**Julia M. Santucci,** senior lecturer and director, Graduate School of Public and International Affairs

Jaime E Sidani, assistant professor of medicine; assistant director, Center for Research on Media, Technology, and Health, School of Medicine

Jonathan Silverstein, chief research informatics officer, Health Sciences and Institute for Precision Medicine, and professor of biomedical informatics, School of Medicine

**David Tipper,** professor, School of Computing and Information

**Albert C. To,** Associate Professor & CNG Faculty Fellow; Director, MOST-AM Consortium; Director, ANSYS Additive Manufacturing Research Laboratory, Swanson School of Engineering

**Veena Vasudevan,** assistant professor, Digital Media and Learning, Kenneth P. Dietrich School of Arts and Sciences

**Annette Vee**, assistant professor, Department of English, Kenneth P. Dietrich School of Arts and Sciences

**Götz Veser**, Nickolas DeCecco Professor and associate director, Center for Energy, Swanson School of Engineering

**Brian Vidic,** director of partnerships, Office of Economic Partnerships

Martin B.H. Weiss, chair, Department of Informatics and Networked Systems, professor, School of Computing and Information

**Phil Williams,** professor and director, Matthew B. Ridgway Center for International Security Studies, Graduate School of Public and International Affairs

**Christopher E. Wilmer,** assistant professor, Swanson School of Engineering

**Lingfei Wu,** assistant professor, School of Computing and Information

Joseph T. Yun, artificial intelligence and innovation architect and research professor of electrical and computer engineering, Pitt Information Technology and the Department of Electrical and Computer Engineering, Swanson School of Engineering

**Bo Zeng,** assistant professor, Swanson School of Engineering

**Taieb Znati,** chair, Department of Computer Science; professor, School of Computing and Information

# **Affiliate Practice Scholars**

Pitt Cyber's Affiliate Practice Scholars are drawn from across the industry and policy worlds.

**Lieutenant Colonel Diana Bishop (ret.),** former detachment
730 commander and professor,
aerospace studies, Air Force ROTC

**Michael A. Comber,** partner, Farrell & Reisinger, LLC

**Akshana Dassanaike-Perera,** CEO and cofounder, Steel City Codes **Christopher A. Geary,** senior manager, EY

**Brian Geffert**, global chief information security officer, KPMG International

**Bob Gradeck,** project director, Western Pennsylvania Regional Data Center

**James T. Kitchen,** counsel, Jones Day

**John Kropf,** corporate privacy executive, Northrop Grumman

**Martin Lindner,** managing principal consultant, SecureWorks

**Keith Mularski,** advisory executive director of cybersecurity, Ernst & Young LLP

**David Odom,** chief information security officer, Naval Nuclear Laboratory

**Harvey Rishikof,** director of cybersecurity, Applied Research Laboratory for Intelligence and Security, University of Maryland

Claire Shao, CFO, Steel City Codes

**Lieutenant Colonel James J. Straub Jr.,** Air Force ROTC Detachment 730 Commander

**Sean Sweeney,** field CISO and Cloud security advisor group leader, Oracle

**Josh Zhou,** COO and cofounder, Steel City Codes

# With Gratitude

Pitt Cyber is a truly University-wide effort. We are grateful for collaborations from across the University. Pitt Cyber owes a particular debt of gratitude to the Office of the Chancellor, the Office of the Provost, Pitt Information Technology, and the School of Law. We also are grateful for the constant support of the Office of University Communications and Marketing and the Division of Philanthropic and Alumni Engagement.



Institute for Cyber Law, Policy, and Security

2516 Cathedral of Learning 4200 Fifth Avenue Pittsburgh, PA 15260

cyber.pitt.edu

The University of Pittsburgh is an affirmative action, equal opportunity institution. Published in cooperation with the Office of University Communications and Marketing. 113974-0423