



NOTRE DAME-IBM TECHNOLOGY ETHICS LAB

Annual Report

20

21

Table of Contents

03

Mission and Founding

10

Call for Proposals

05

From the Director

13

2021-22 Fellows

07

Governance

14

Looking Ahead

08

Events

15

Contact

The Lab's Mission

The Notre Dame-IBM Technology Ethics Lab promotes broad-based, far-reaching interdisciplinary research, thought, and policy leadership in artificial intelligence and other technology ethics by engaging with relevant stakeholders to examine real-world challenges and provide practical models and applied solutions for ethical technology design, development, and deployment.



Our mission is to promote human values in technology with the ultimate aim of helping steer technological design, development, deployment, and use in the direction of more equity and justice. We do this by producing and supporting tangible, applied, and interdisciplinary research projects that address core ethical questions.

We also create third-party industry alliances and facilitate dialogue and debate regarding technology ethics, help develop preeminent standards related to the moral and ethical use of technology, and seek to inform technology-related laws, policies, and governance.

The Lab's Founding

Representing academia and industry, Notre Dame and IBM brought their distinct perspectives to the founding of the Lab, forging a dynamic partnership.



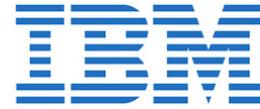
Notre Dame's vision for the Notre Dame-IBM Technology Ethics Lab was shaped at the highest levels of the University, reflecting an aspiration that its work in tech ethics would lead thought and practice in this field in real and sustained ways.

Tom Burish, provost from 2005–2020, and others saw the Lab's establishment, and its affiliation with the Notre Dame Technology Ethics Center, as a way to support applied research and thought leadership that would simultaneously leverage academic and industry perspectives, advancing an ethical application to technology across industry and non-industry stakeholders. The Lab would be a partnership that would take the University's growing strength in technology ethics and pair it with IBM's expertise in applying artificial intelligence and other innovative technologies to business.

"We are grateful to IBM for its leadership in technology and business ethics and for its support of research to form ethical foundations for emerging technologies," Burish said at the time of the Lab's founding. "The convening power of our organizations will allow us to bring together leading scholars and industry leaders to truly champion responsible technology development as a force for good on a global scale."

In tackling the ethical concerns raised by technologies like AI, machine learning, and quantum computing, the Lab seeks to promote human values in tech with the ultimate aim of helping steer technological design, development, deployment, and use in the direction of more equity and justice.

This is a mission that resonates with Notre Dame's own as a place of teaching and research, of scholarship and publication, and of service and community, and the University looks forward to growing the Lab in partnership with IBM.



The plans for the Notre Dame-IBM Tech Ethics Lab were formed when it became clear that emerging technologies were beginning to face critical and complex ethical challenges. These technologies are making game-changing innovations at speeds never imagined, but they risk quickly losing the trust of the very society they intend to improve. Industry must prove to the world that we can be responsible with these incredible innovations.

By combining IBM's deep technical expertise with Notre Dame's strength in philosophy and ethics, we hoped to raise awareness and help other organizations address ethical issues. IBM made a 10-year, \$20 million commitment to the Tech Ethics Lab to create a holistic approach to tech ethics and practical, research-based models for the ethical development and deployment of these technologies.

In little more than a year, the Tech Ethics Lab has moved to the forefront of the global conversation on how to build ethics into the early stages of design and development and continue throughout the entire lifecycle of the technology. Furthermore, as the technologies evolve, so must the ethical lenses applied to those technologies.

Through our partnership with Notre Dame we are bringing together leading academic, business, community, and government leaders to ask the tough questions and to champion responsible technology that is human-centric. IBM is proud to team with Notre Dame to bridge the concept of putting principles into practice with concrete approaches and models that organizations can leverage across the globe.



The Lab under construction

From the Director

When I first came on board as Founding Director in January 2021, in the midst of the COVID-19 pandemic, the Notre Dame-IBM Technology Ethics Lab was little more than an idea, a program manager, and a construction site. At the same time, it was seeded with great potential, thanks to the generous financial support from our founding sponsor, IBM, the academic reputation and rigor of Notre Dame, and a handful of individuals determined to build an institution that could address some of the most pressing real-world ethical challenges associated with artificial intelligence and other new and advanced technologies—challenges that have grown even more urgent and apparent in the face of the global pandemic.

In just over a year, the Lab has come a long way in positioning itself in the global technology ethics conversation against a backdrop of ongoing uncertainty and challenges around the world. Despite launching as a mostly remote endeavor, we have grown a steady and diverse global following and built a burgeoning community that includes over 1300 followers on social media and nearly 200 active subscribers to our newsletter, The Lab Report. Although we are a new voice in the field, we have already had dozens of mentions in the press, including in major outlets such as CNN, the Associated Press, the New York Times, NPR, and Bloomberg.



“Despite launching as a mostly remote endeavor, we have grown a steady and diverse global following.”

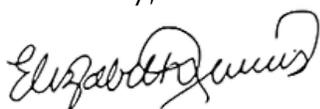
From the Director (cont.)

In our first year, we hosted more than a dozen high-impact virtual events, including fourteen TEC Talks featuring high-profile speakers and activists such as Roger McNamee, Yaël Eisenstat, and Nanjala Nyabola. Combined with our soft launch on “Ethics in Action: Moving from Principles to Practice” and a feature event on “The Future of Rights,” we hosted nearly forty guest speakers from around the world, with an average of 170 viewers per event. Through a new podcast focused on technology ethics around the world, we hope to grow our voice and prominence in the global conversation further.

Alongside building out our presence and community, we also introduced major projects and initiatives focused on applied outputs and deliverables. Building on our existing sponsorship of graduate and academic fellows through the Notre Dame Institute for Advanced Study and the Notre Dame Technology Ethics Center, we launched a new program for “Tech Ethics” fellows for the 2022–2023 academic year. We also published an inaugural Call for Proposals focused on six core themes—scale, automation, identification, prediction, persuasion, and adoption. The response to our call was overwhelming, receiving more than 100 applications from 34 countries on six continents, and resulting in more than \$500,000 worth of projects recommended for funding.

In the coming year, we look forward to seeing the results of these initial projects, hiring additional staff to help develop the Lab’s capacity and expertise, and using our convening power to host high-profile events and initiatives, including in-person gatherings as the world slowly begins to open up again. We remain committed to the work of promoting human values in technology in 2022, and we hope you’ll join us on our journey.

Sincerely,



Elizabeth M. Renieris
Founding Director, Notre Dame-IBM Technology Ethics Lab

Governance

The Technology Ethics Lab was co-founded by the University of Notre Dame and IBM.

Directors

Elizabeth M. Renieris

Founding Director of the Notre Dame-IBM Technology Ethics Lab,
Associate Professor of the Practice (Notre Dame)

Betsy Greytok

Vice President, Ethics & Policy (IBM)

Steering Committee

Robert J. Bernhard

Vice President for Research,
Professor of Aerospace and Mechanical Engineering (Notre Dame)

Rev. Robert A. Dowd, C.S.C.

Vice President and Associate Provost for Interdisciplinary Initiatives,
Associate Professor of Political Science (Notre Dame)

Nick Fehring

Corporate Treasurer,
Vice President (IBM)

Kirsten Martin

Director of the Notre Dame Technology Ethics Center,
William P. and Hazel B. White Center Professor of Technology Ethics,
Professor of IT, Analytics, and Operations (Notre Dame)

Christina Montgomery

Chief Privacy Officer,
Vice President (IBM)

Jeffrey J. Welser

Vice President, Exploratory Science and University Programs (IBM)

Events: TEC Talks

TEC Talks, a virtual speaker series the Lab created in partnership with the Notre Dame Technology Ethics Center, featured seven sessions in spring 2021 on the theme of “Misinformation and Disinformation” and seven more events in the fall on “Technology and Power.”

TEC Talks Speakers



Ifeoma Ozoma (left) and Roger McNamee discussed “What Do We Value? The Ethics of Tech Accountability.”

- Mutale Nkonde, AI for the People
- Nanjala Nyabola, Independent Writer and Researcher
- Julie Owono, Internet Sans Frontières
- Ifeoma Ozoma, Earthseed
- Vanessa Perry, George Washington University
- Noopur Raval, New York University
- Lauren Rhue, University of Maryland
- Clint Smith, Discord
- Luke Stark, University of Western Ontario
- Siva Vaidhyanathan, University of Virginia
- Carissa Véliz, University of Oxford
- Apryl Williams, University of Michigan
- Jillian York, Electronic Frontier Foundation
- Ifeoma Ajunwa, University of North Carolina at Chapel Hill
- Ali Alkhatib, University of San Francisco
- Yussuf Bashir, Haki na Sheria
- Abeba Birhane, University College Dublin
- Albert Fox Cahn, Surveillance Technology Oversight Project
- Ryan Calo, University of Washington
- Danielle Citron, University of Virginia
- Joan Donovan, Harvard University
- Yaël Eisenstat, Berggruen Institute
- Karen Levy, Cornell University
- David Magerman, Differential Ventures
- Roger McNamee, Elevation Partners



Yaël Eisenstat (left) and Danielle Citron were the speakers for a TEC Talk on “Section 230: Online Speech and Tech Responsibility.”

Events: Panels

The Lab hosted two virtual events in 2021, including a “soft launch” focused on operationalizing tech ethics principles and a panel examining whether new technologies necessitate new rights. Both panels were moderated by Elizabeth M. Renieris, the Lab’s founding director.

“Ethics in Action: Moving from Principles to Practice in Technology Ethics”

According to the UN Secretary General’s Roadmap on Digital Cooperation, there are more than 160 distinct organizational, national, and international sets of AI ethics and governance principles worldwide, and even more related to technology ethics more generally.

This April 29 panel convened a group of experts from across academia, industry, standards-setting bodies, the public sector, and civil society to share their perspectives on translating these frameworks, principles, and guidelines into action.



Panelists:

- Jessica Fjeld, Berkman Klein Center for Internet & Society
- John Havens, Council on Extended Intelligence
- Philippe-André Rodriguez, Global Affairs Canada
- Francesca Rossi, IBM
- Fabro Steibel, Berkman Klein Center for Internet & Society

“The Future of Rights”

On June 23, “The Future of Rights” brought together a distinguished panel to discuss whether emerging technologies indicate a need for new codified legal rights—such as a right to the freedom of thought and freedom from manipulation—as well as a right to “disconnect” from work.

Panelists:

- Susie Alegre, Doughty Street Chambers
- Andrew Pakes, Prospect Union UK
- Frank Pasquale, Brooklyn Law School
- Sushma Raman, Carr Center for Human Rights

CALL FOR PROPOSALS



SCALE



AUTOMATION



IDENTIFICATION



PREDICTION



PERSUASION



ADOPTION

In October 2021, the Lab released its inaugural Call for Proposals (CFP), seeking projects focused on at least one of six core themes related to the ethics of:

- SCALE – the limits of networked technologies; the risks of large data models; frameworks for mitigating systemic risks; or methods for scaling safely and responsibly.
- AUTOMATION – how we preserve autonomy in the face of automation; the risks of automated processing/algorithmic decision-making; or how to revive and apply the right to the freedom of thought to digital technologies.
- IDENTIFICATION – how to design ethical digital ID schemes; the ethics of reputational or scoring systems; ethical frameworks for the use of biometrics; or the ethics of immunity certificates/passports.
- PREDICTION – the ethical limits of prediction; ethical frameworks for the use of predictive technologies; or policy guidance for accountability and recourse with respect to predictions and predictive technologies.
- PERSUASION – when it’s acceptable or unacceptable to nudge or persuade; the line between persuasion and manipulation; how to design ethical frameworks for neurotechnologies; or the role of design and defaults to avoid dark patterns and the like.
- ADOPTION – how to design ethical frameworks for procurement, establish guardrails for public-private collaborations, or develop governance models and oversight.

More than 100 proposals were received, representing every continent but Antarctica, with North America, Africa, and Europe leading the way.

The 27 projects recommended for funding were announced in January 2022; total awards exceeded \$500,000. Projects will be undertaken and completed this year, and final deliverables will be accessible through the Lab’s website.

Projects Recommended for CFP Funding

Artificial Justice

Halsey Burgund (MIT Open Documentary Lab), Sarah Newman (Harvard University), Jessica Silbey (Boston University)

Assessing Africa's Policy Readiness Towards Responsible

Artificial Intelligence

Erick Otieno (Reallink Ltd.)

An Audit for Children-Nudging: Games and Social Media

Marianna Ganapini (Union College), Enrico Panai (ForHumanity)

Comparative Analysis of Risks and Benefits of Digital Identification Systems in DRC, Gabon, Cameroon and Republic of Congo

Divine Enkando (Data Rights Lab), Narcisse Mbunzama (Digital Security Group)

The Complete Picture Project

Devangana Khokhar (Outsight International), Dan McClure (Outsight International), Denise Soesilo (Outsight International)

Developing Model Legislation for the Operationalization of Information Fiduciaries for AI Governance

Josh Lee (ETPL.Asia), Lenon Ong (ETPL.Asia), Elizaveta Shesterneva (ETPL.Asia)

Diagnosis and Mitigation of Bias from Latin America Towards the Construction of Tools and a Framework for Latin American Ethics in AI

Luciana Benotti (Universidad Nacional de Córdoba), Beatriz Busaniche (Universidad de Buenos Aires), María Lucía Gonzalez Dominguez (Universidad Nacional de Córdoba)

Duty of Data Loyalty Model Legislation

G.S. Hans (Vanderbilt University), Woodrow Hartzog (Northeastern University), Neil Richards (Washington University in St. Louis)

Ethical Issues Associated With Pervasive Eye-Tracking

Shaun Foster (Rochester Institute of Technology), Evan Selinger (Rochester Institute of Technology)

The Ethical Radicals

Freya Van den Boom (Bournemouth University)

Ethics Experiment on Designing Character for AI

Charles Ikem (PolicyLab Africa), Sudha Jamthe (Stanford University)

Examining Dark Patterns in Apps Used by Adolescents

Sundarapariipurnan Narayanan (Independent Researcher)

Explainable and Auditable AI in the Nexus of Climate Change and Food Security

Catherine Kilelu (African Centre for Technology Studies), Winston Ojenge (African Centre for Technology Studies), Joel Onyango (African Centre for Technology Studies)

Exploring Local Post-Hoc Explanation Methods in Tax-Related AI Systems

Marco Almada (European University Institute), Błażej Kuźniacki (University of Amsterdam), Kamil Tylinski (Mishcon de Reya LLP)

A Framework for Identification, Review, and Resolution of Ethical Issues in Healthcare Machine Learning Projects

Jeremiah Fadugba (University of Ibadan), Pamela Kimeto (Kabarak University), Moses Thiga (Kabarak University)

From Ethical Models to Good Systems: A Data Labeling Service for AI Ethics

Andrew Brozek (Craftinity), Thomas Gilbert (Cornell Tech), Megan Welle (Daios)

Human-Beneficial Decision-Making by Means of Augmented Reality Serious Gaming

Ida Romana Helena Rust (University of Twente)

Identifying Common Typologies of Harm in Forecasting Systems

Nathaniel Raymond (Yale University), Bahman Rostami-Tabar (Cardiff University)

Increasing Venture Capital Investment in Ethical Tech

Ravit Dotan (University of Pittsburgh), Leehe Skuler (Global Impact Tech Alliance - GITA)

InterpretMe 2.0: A Web Tool for Community-Centered Interpretation of Social Media Posts

Siva Mathiyazhagan (Columbia University), Desmond Patton (Columbia University)

A Manual of Ethical UX Design Principles

Shyam Krishnakumar (Pranava Institute), Titiksha Vashist (Pranava Institute)

Promoting Human Values in the Design, Development, and Policies of Brain-Machine Interfaces

Margot Hanley (Cornell Tech), Karen Levy (Cornell University), Guy Wilson (Stanford University)

A Responsible Development Biometric Deployment Handbook

James Eaton-Lee (Simprints), Alexandra Grigore (Simprints), Stephen Taylor (Simprints)

Reversing the Mirror: Toward Ethical, Community-Centric Biometric Governance

Hanson Hosein (HRH Media Group LLC), Shankar Narayan (Independent Researcher), Nandini Ranganathan (CETI, Portland State University)

A Roadmap for Ethical AI Standardization

Christine Galvagna (Technical University of Munich)

Solving Ethical Challenges in the Design of Open-Source Environments: Scaling Urban Mapping Models in View of the Locus Charter

Monika Kuffer (University of Twente), Lorraine Oliveira (Independent Researcher), Julio Pedrassoli (MapBiomias Project)

What Really Works? A Study of the Effectiveness of AI Ethical Risk-Mitigation Initiatives

Shea Brown (BABL AI), Ali Hasan (BABL AI), Ben Lange (BABL AI)

2021-22 Fellows

In partnership with the Notre Dame Institute for Advanced Study, the Lab is providing funding in support of two faculty fellows and two graduate fellows during the 2021-22 academic year.

Faculty Fellows



John Golden

Edward S. Knight Chair in Law, Entrepreneurialism, and Innovation at the University of Texas at Austin School of Law

Fellowship Project: "Resilient Legal Systems for Innovation, Risk Regulation, and Democratic Governance"



Apryl Williams

Assistant Professor in the Department of Communication & Media and the Digital Studies Institute at the University of Michigan

Fellowship Project: "Fat Black Body Politic"

Graduate Fellows



Brian Boyd

Ph.D. Candidate in Moral Theology at Notre Dame

Fellowship Project: "Full Equality in Exchange: A Renewed Theory of the Just Wage"



Char Brecevic

Ph.D. Candidate in the History and Philosophy of Science and Graduate Minor in Gender Studies at Notre Dame

Fellowship Project: "Patient Nonadherence: Imagining a Way Forward"

Looking Ahead

The Lab is at work on some exciting projects and initiatives for 2022.



Supporting the Rome Call for AI Ethics

The Rome Call for AI Ethics is a document signed in Rome on February 28, 2020, by the Pontifical Academy for Life (PAV), IBM, Microsoft, the Food and Agriculture Organization of the United Nations (FAO), and the Italian government's Ministry of Innovation.

Supported by the Vatican through the PAV, the Rome Call seeks to promote an ethical approach to artificial intelligence, grounded in a sense of shared responsibility, to create a future in which humanity is central to digital innovation and technological progress.

The Lab is planning a hybrid in-person and online symposium in fall 2022 that will allow academic leaders to learn more about the Rome Call by connecting with individuals from early signatories.



Tech on Earth Podcast

Launched in February 2022 on the second anniversary of the Rome Call for AI Ethics, Tech on Earth is the Lab's new podcast aimed at bringing a practical lens to tech ethics around the globe.

The show will explore how "tech ethics" are actually understood and interpreted in different parts of the world, gather lessons from various religious and secular traditions, and examine how cultural norms and attitudes shape, support, or impede the realization of ethical principles in practice.

Our hope is to find some common ground across divergent perspectives on the ethics that should govern the design and use of cross-border technologies now and in the future.



Resource Library

This video series is intended to help translate cutting-edge artificial intelligence ethics research and scholarship into actionable principles for industry and other practitioners.



Tech Ethics Fellows

The Lab expects to hire several industry practitioners as "Tech Ethics Fellows." We're also recruiting two to three postdoctoral fellows with the Notre Dame Technology Ethics Center.



Notre Dame-IBM Tech Ethics Lab

**204 O'Shaughnessy Hall
Notre Dame, IN 46556 USA
techlab@nd.edu
techethicslab.nd.edu
Twitter: @techethicslab**

The Notre Dame-IBM Tech Ethics Lab was established in 2020 as a partnership between the University of Notre Dame and IBM and is funded by a 10-year, \$20 million IBM commitment.

The Lab would like to acknowledge its project manager Nicole McAlee and communications director Ted Fox for their help in producing this report as well as their ongoing support for the Lab's mission.



UNIVERSITY OF
NOTRE DAME