MASTER *of* SCIENCE *in*

Computational Analysis and Public Policy

Changing the world, bit by bit.

THE UNIVERSITY OF CHICAGO
Harris Public Policy

THE UNIVERSITY OF
CHICAGO

Program Overview

The **MS in Computational Analysis and Public Policy (MSCAPP)** is a rigorous, two-year program offered jointly by the Harris School of Public Policy (Harris) and the Department of Computer Science (CS) at the University of Chicago.

The curriculum builds foundational knowledge of computer science, data science, economics, statistics, and public policy analysis. You will then continue with advanced coursework in econometrics, machine learning, big data methods, data visualization, program evaluation, and application development, all while learning real-world application of your new skills.

Learn more about MSCAPP admissions, curriculum, and our faculty and staff at **capp.uchicago.edu**

"Now, more than ever, the world needs leaders who can leverage the unique combination of skills that is the hallmark of the MSCAPP program to translate a deep understanding of data and evidence into real policy solutions."

KATHERINE BAICKER
Dean and Emmett Dedmon Professor,
Harris Public Policy, The University of Chicago

"The University of Chicago has built computer science and data science into the fabric of the university. As public policy, economics, and social science become increasingly interdisciplinary, the MSCAPP program provides a unique opportunity to explore ways to combine these technical tools with an evidence-based approach to policy in order to address essential problems that arise in government, nonprofits, the private sector, and our communities."

MICHAEL FRANKLIN
Liew Family Chairman of Computer Science,
Senior Advisor to the Provost for Computing and Data Science, The University of Chicago

By the Numbers: Class Profile*

DEMOGRAPHICS

15
countries represented
(including U.S.)

20
U.S. states represented
(including D.C.)

58% | **42%**
Domestic | International

48% | **52%**
Female | Male

WORK EXPERIENCE

27%
0–1 YEARS

42%
2–4 YEARS

31%
5+ YEARS
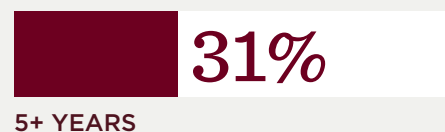
*Data collected about the incoming class of fall 2019.

Take the core and more —personalize your degree.

In your first year, you will complete a core set of economics and statistics classes alongside your peers, as well as a five-part series in computational thinking, programming, databases, and machine learning. This comprehensive first-year coursework enables you to gain experience in technical roles over the summer in applied internships, as well as build a foundation to take advanced electives in your second year.

YEAR 1 MSCAPP CORE CURRICULUM
Learn how to think, not what to think.

At Harris, we don't teach formulas to follow. We teach methods and structures that can be applied in any context and allow you to do the creative problem-solving top employers are seeking.*

Autumn	Winter	Spring
Computer Science with Applications I	Computer Science with Applications II	Databases for Public Policy
Microeconomics I	Mathematics for Computer Science	Machine Learning for Public Policy
Statistics I	Statistics II	Microeconomics II

*Advanced options and waivers are available for students with prior training.

YEAR 2 INTERDISCIPLINARY LEARNING
Hone your expertise. Customize your curriculum.

Take elective UChicago courses from outside Harris and the CS department, including the Booth School of Business, Law School, Departments of Statistics and Economics, Toyota Technological Institute at Chicago, School of Social Service Administration, Division of Social Sciences, and more. You can also specialize your degree with a certificate.

To explore Harris certificate programs, visit **harris.uchicago.edu/certificates**

Autumn	Winter	Spring
Analytical Politics I	ELECTIVE	Program Evaluation**
ELECTIVE	ELECTIVE	ELECTIVE
ELECTIVE	ELECTIVE	ELECTIVE

**Can be taken any quarter in your second year.

Choose your path while learning from the experts.

Key Faculty

Lamont Samuels
Assistant Clinical Professor,
Master's Program in Computer Science

- Research focuses on developing high-level programming languages for parallel computing
- Earned his MS and PhD in Computer Science at the University of Chicago
- Associate Director of the Master's Program in Computer Science

Jens Ludwig
Edwin A. and Betty L. Bergman Distinguished Service Professor, Harris Public Policy; Director, UChicago Crime Lab

- Research focuses on urban policy issues, such as poverty, crime, and education
- Co-director of the Education Lab and Co-director of the National Bureau of Economic Research's working group on the economics of crime

Ariel Kalil
Professor, Harris Public Policy

- Research focuses on the historical evolution of income-based gaps in parenting behavior and children's cognitive and non-cognitive skills
- Director of the Center for Human Potential and Public Policy and Co-director of the Behavioral Insights and Parenting Lab

Sample Elective Courses

DATA SCIENCE
- Data Visualization
- Computational Content Analysis
- Fundamentals of Deep Learning
- Computer Vision and Image Processing

DATA ENGINEERING / SOFTWARE ENGINEERING
- Big Data Application Architecture
- Web Development
- Cloud Computing
- iOS Development

TECHNICAL PROJECT / PRODUCT MANAGEMENT
- Inclusive Technology
- Managerial Decision Making
- Cost Benefit Analysis
- Applied Software Engineering

PUBLIC POLICY RESEARCH & ANALYSIS
- Energy in the Developing World
- Artificial Intelligence and Public Policy
- Health System Transformation
- Introduction to Peacebuilding

"Whether it's supporting work on improving the visitation process at a jail or assigning language interpreters to poll sites, strong programming and statistical knowledge through CAPP has helped me identify various approaches to solving local issues that are not only transparent and interpretable, but also meet the needs of New Yorkers effectively."

FARAZ AHMED, MSCAPP'18
Data Scientist, NYC Mayor's Office of Data Analytics

The Harris Experience

Engage with an active community of fellow students. Gain access to influential leaders and make meaningful contributions to projects across the policy spectrum in private, public, and nonprofit organizations.

Research opportunities

THE CENTER FOR HEALTH AND THE SOCIAL SCIENCES
THE UNIVERSITY OF CHICAGO

Partnering with health care and academic institutions and scholars to support programs that aim to improve health care delivery and advance health care research.

THE UNIVERSITY OF CHICAGO | Mansueto Institute for Urban Innovation

Bringing together researchers from the social, natural, and computational sciences, along with the humanities, to study the fundamental processes that drive, shape, and sustain cities.

UCHICAGO URBANLABS

Five labs working to address challenges across five key dimensions of urban life: crime, education, health, poverty, and energy & environment.

EPIC ENERGY POLICY INSTITUTE AT THE UNIVERSITY OF CHICAGO

Producing data-driven research that advances society's understanding of the global energy challenge, translating research insights into real-world impacts, and training the next generation of global energy leaders.

Student experience

CAPP Lunch

Each week, students are invited to a "lunch and learn" speaker series with prominent researchers, expert practitioners, and employers working in the fields of data science and civic technology.

Policy Labs

Policy Labs are unique Harris elective courses in which students address real-time, complex public policy challenges facing client organizations (government agencies, nonprofits, and divisions/affiliates of UChicago). Students work in small interdisciplinary teams and serve as policy consultants, conducting research, analyzing data, and producing actionable and impactful policy recommendations for presentation to client leadership.

CDAC Distinguished Speaker Series

The Center for Data and Computing (CDAC) is the intellectual hub and incubator for data science and artificial intelligence research at the University of Chicago. This series allows you to interact with the CDAC community for talks, workshops, and other gatherings that spark new collaborations and technological discoveries.

Harris Student Organizations

- HarrisTech*
- South Side Civic (Scopeathon)*
- Harris Sustainability Transformation*
- Minorities in Public Policy Studies
- Women in Public Policy
- Latin American Matters

*Founded or co-founded by CAPP.

Accelerate your career with Harris.

Career Development Office

Harris graduates lead successful careers across sectors, throughout the United States, and around the globe. To help students and alumni refine their professional skills and search for career opportunities, the Harris Career Development Office provides a wealth of resources, including:

- Individual career counseling
- Professional development workshops
- Employer information sessions
- On-campus recruiting events
- Employment database
- Virtual employer trek weeks
- Internship support

Alumni Network

When you graduate from Harris, you join a lifelong network of 3,500+ Harris alumni and more than 160,000 University of Chicago alumni living or working on every continent. They serve as mentors to current students and hire recent graduates to make meaningful impact at organizations across the public, private, and nonprofit sectors.

Mentor Program

In this award-winning program, Harris mentors call on their experience to help students connect academic training with practical opportunities to navigate their transition to professional careers.

Sample next roles that CAPP can prepare you for:

- Application Developer
- Civic Technologist
- Data Engineer
- Data Scientist
- Data Visualization Specialist
- Policy Researcher
- Research Associate
- Technical Project Manager

"I still stay in contact with my CAPP peers; we are planning a reunion. I also remain in contact with my faculty advisors, who were strong mentors throughout the program. I can reach out to any of them for recommendations, job hunting, or career advice."

MITSUE ITAWA, MSCAPP'16
Director of Data Analytics, Planned Parenthood
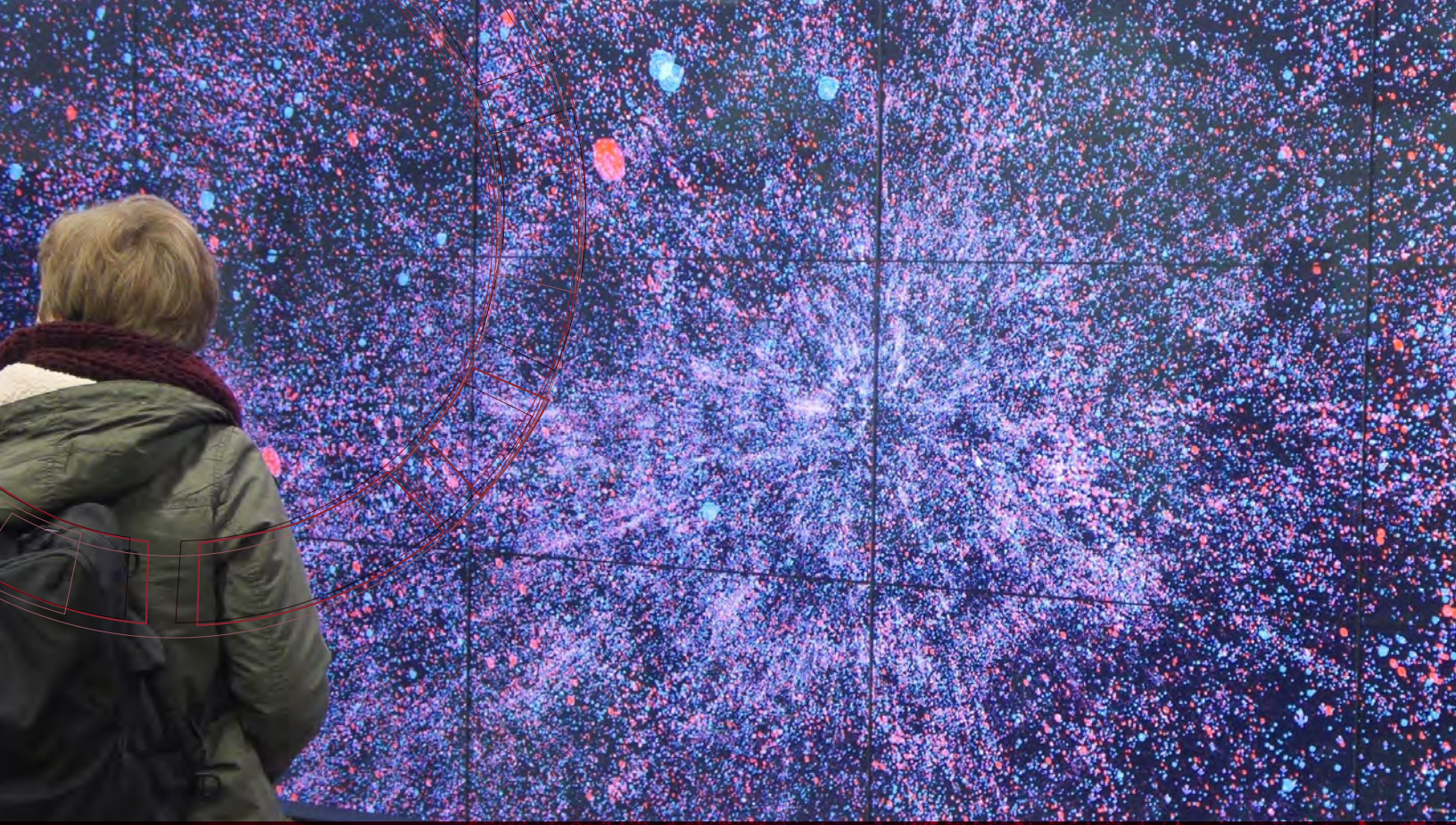
Apply big data to big problems.

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Harris Public Policy

The University of Chicago
Harris School of Public Policy
1307 East 60th Street
Chicago, Illinois 60637
773.702.8400

Connect with us **@HarrisPolicy**
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For more information or to apply, visit **capp.uchicago.edu**
or contact us at **capp@uchicago.edu**