YESHIVA UNIVERSITY
KATZ SCHOOL OF SCIENCE AND HEALTH

MAKING THE WORLD SMARTER, SAFER AND HEALTHIER

Katz
**Katz School
of Science and Health**

#67 in the United States by *U.S. News & World Report*

#246 in QS World University Rankings 2023

95% employment rate

11 graduate programs in STEM and Health Sciences

THE KATZ SCHOOL
OF SCIENCE AND HEALTH

The Katz School is Yeshiva University's flagship school for STEM. We focus on industry sectors that are central to the modern economy: Artificial Intelligence, Biotechnology, Cybersecurity, Data Analytics, Digital Media, and Fintech as well as Occupational Therapy, Physician Assistant Studies and Speech-Language Pathology.

Founded in 1886, Yeshiva University (YU) is a premier research university in New York City. YU serves over 5,500 students across three undergraduate schools and seven graduate and professional schools, including the Katz School of Science and Health, Cardozo School of Law, the Wurzweiler School of Social Work, the Ferkauf Graduate School of Psychology, and renowned affiliates such as the Albert Einstein College of Medicine.

Just two blocks from the Empire State Building, the Katz School is located in the heart of Manhattan. Study and practice next to the best and biggest companies in one of the largest and most dynamic job markets in the world.

NEW YORK CITY IS OUR CAMPUS

Dr. Paul Russo
University Vice Provost and Dean,
Katz School of Science and Health

"We are research scientists, tech builders and patient-centered clinicians working on problems that matter. We concentrate our energy on industries that are the engines of New York City's growth and revitalization and that are redefining the way we work and live."

JeeHo Bae (South Korea)
M.S. in Data Analytics and Visualization

"I liked the Katz School's midtown Manhattan location. I'm confident it will be a huge advantage when networking with professionals in the data analysis and data science fields."

Himali Katti (India)
M.S. in Digital Marketing and Media

"For me, life in the U.S. has been all about that independent new life. It's about going after my dreams in the city of dreams—New York."

GRADUATE DEGREES

FOR THE MOST IN-DEMAND CAREERS

We take an interdisciplinary approach to research and education, fostering the creativity, collaborative thinking and builder mindset required to take on today's toughest problems. Learn the skills employers want and prepare for a lifetime of professional success.

STEM PROGRAMS

M.S. in Artificial Intelligence

36 Credits | Fall and Spring Starts

Average time to completion:
1.5–2 years

Sample Courses:
Data Acquisition and Management, Numerical Methods, Predictive Models, Machine Learning, Artificial Intelligence, Neural Networks and Deep Learning

Future Job Titles:
Data Scientist, Machine Learning Engineer, Software Engineer, Solutions Architect, Artificial Intelligence Engineer, Data Engineer, Cloud Solutions Architect/Engineer, Software Developer

Median Salary: $156,000

M.S. in Biotechnology Management and Entrepreneurship

36 Credits | Fall and Spring Starts

Average time to completion:
1.5–2 years

Sample Courses:
Biostatistics and Informatics, Pharmacology Product Development and Commercialization, Intellectual Property, Regulation and Compliance for Biotech

Future Job Titles:
Director of Business Development, Product Manager, Project Manager, Clinical Trial Manager, Life Science Consultant, Marketing Product Manager, Commercialization Manager

Median Salary: $99,000

M.S. in Cybersecurity

30 Credits | Fall and Spring Starts

Average time to completion:
1–1.5 years

Sample Courses:
Architecture of Secure Operating Systems; Applications and Devices; Network, Data and Communications Security; Cloud Security; E-Discovery, Digital Evidence and Computer Forensics

Future Job Titles:
Cybersecurity Analyst, Cybersecurity Engineer, Information Security Analyst, Information Security Engineer, Security Engineer, Systems Engineer, Information Systems Security Officer, Cybersecurity Architect

Median Salary: $138,000

Ranked #2 Best Online Master's in Cybersecurity in the U.S. by *Fortune Magazine*, 2022.

M.S. in Data Analytics and Visualization

30 Credits | Fall and Spring Starts

Average time to completion:
1–1.5 years

Sample Courses:
Business Modeling, Structured Data Management, Visual Design and Storytelling, Computational Math and Statistics, Analytics Programming, AI Product Studio

Future Job Titles:
Data Scientist, Data Analyst, Data Engineer, Software Engineer, Analytics Manager, Business Intelligence Analyst

Median Salary: $175,000

STEM PROGRAMS

M.S. in Digital Marketing and Media

30 Credits | Fall and Spring Starts

Average time to completion:
1–1.5 years

Two Tracks:
Digital and Social Strategies Track; Marketing Analytics Track

Sample Courses:
Consumer Behavior and Customer Relationships, Brand Management, Visual Design and Storytelling, Analytics Programming, Web Analytics and SEO

Future Job Titles:
Digital Media Buyer, Global Marketing Director, Digital Marketing & Analytics Manager, Demand Generation Manager, Digital Experience Manager, Social Media & Email Marketing Manager

Median Salary: $134,000

M.A. in Physics

30 Credits | Fall and Spring Starts

Average time to completion:
1–1.5 years

Solve problems in quantum information, mechanical and electronic materials behavior, propagation of waves, biological matter, dynamics, and hardware and software development.

Sample Courses:
Engineering Mechanics, Quantum Engineering, Applied Statistical Thermodynamics

Future Job Title: Physicist

Median Salary: $122,850

M.A. in Mathematics

30 Credits | Fall and Spring Starts

Average time to completion:
1–1.5 years

Ph.D. in Mathematical Sciences

66 Credits (36 credits above a master's degree)

Average time to completion:
3–5 years

Gain a solid foundation in advanced mathematics and develop skills in mathematical modeling, numerical applications and data analysis. Work with research-active faculty and industry mentors to solve real-world problems.

Sample Courses:
Mathematical Statistics, Mathematics of Finance, Dynamical Systems, Time Series Analysis

Future Job Title: Mathematician

Median Salary: $90,410

HEALTH SCIENCE PROGRAMS

M.S. in Physician Assistant Studies

86 Credits | Fall Start

Average time to completion:
28 months

The M.S. in Physician Assistant Studies is an evidence-based medical science program. Students master diagnostic and patient-care skills in top-tier physical diagnosis and clinical skills laboratories, and rotate through clinical disciplines in areas like primary care, internal medicine, general surgery, emergency medicine, women's health, pediatrics and behavioral health, throughout the New York area.

Future Job Titles:
Physician Assistant, Physician Assistant Educator, PA Administrator

Median Salary: $130,000

M.S. in Speech-Language Pathology

55 Credits | Fall Start

Average time to completion:
5 semesters

One of the few SLP programs in the country specializing in the medical aspects of speech-language pathology, our master's program takes a multidisciplinary approach to diagnosing and treating speech, language, swallowing and communication cases across the lifespan. Offered online and on-campus, the program prepares students to apply for certification from the American Speech-Language Hearing Association (ASHA) and New York State licensure.

Future Job Titles:
Speech-Language Pathologist (SLP), Speech Language Therapist, School Speech Language Pathologist

Median Salary: $99,000

Occupational Therapy Doctorate

115 Credits | Fall Start

Average time to completion:
3 years

The entry-level Occupational Therapy Doctorate prepares students for a lifetime of helping people. Through a student-practitioner approach, students work alongside faculty and learn to translate research into evidence-based interventions, new diagnostics and protocols. Students practice in state-of-the-art labs and complete fieldwork in competitive placements throughout New York City and beyond.

Future Job Titles:
Assistive Technology Consultant, OT Consultant, OT Practice Owner, Hospital OT, Independent OT, Skilled Nursing Facility OT

Median Salary: $94,000

RESEARCH WITH AN IMPACT

Our students and alumni are researchers,

entrepreneurs and trailblazers who are driving innovation

and making the world smarter, safer and healthier.

Shanza Baseer Tariq (Pakistan)
*M.S. in Biotechnology
Management and Entrepreneurship*

Manveet Nanda Singh (India)
*M.S. in Biotechnology Management
and Entrepreneurship*

Katz Biotech Students Graduate with Publication Track Record

When Shanza Baseer Tariq and Manveet Nanda Singh graduated with master's degrees in Biotechnology Management and Entrepreneurship, they already had a publication track record and a job waiting. As graduate students, they co-authored a paper on male infertility, "Sumoylation and its Regulation in Testicular Sertoli Cells," under the supervision of Dr. Margarita Vigodner, associate professor of biology. Published in September 2021 in *Biochemical and Biophysical Research Communication,* the study examined the unknown causes of male infertility, an important topic since infertility affects 8 to 12 percent of couples in the United States.

While Shanza enjoys what Francis Bacon called "experiments of light"—research for research's sake—her heart is in turning research into products, or as Bacon would say, "experiments of fruit"—research intended to improve the material condition of humankind.

After graduating, Shanza accepted a research assistant position at Memorial Sloan Kettering Cancer Center. Manveet is currently an associate researcher at Icahn School of Medicine at Mount Sinai.

Atreish Ramlakhan (U.S.)
M.S. in Artificial Intelligence

Humayra Kausar (Bangladesh)
M.S. in Data Analytics and Visualization

AI, Data Analytics and Math Students Help S&P Global Analyze Climate Impacts on Real Estate

In collaboration with S&P Global Market Intelligence, Katz artificial intelligence students Atreish Ramlakhan, Xiaolan Li, Aishwarya Singh and Zeyu Wang; data analytics students Jacob Goodman, Humayra Kausar and Shichao Zhou; and mathematics student Brian Livian set out to quantify the financial effects of tropical cyclones on the U.S. real estate market. Using hurricane data from the North Oceanic & Atmospheric Administration (NOAA) and the Inter-governmental Panel on Climate Change (IPCC), plus proprietary real estate trust data from S&P databases, the team employed a series of algorithms that used geolocation data to pinpoint where hurricanes landed in the vicinity of assets that belong to real estate investment trusts (REITs), which are companies that own, operate or finance income-generating real estate.

Their research confirmed the suspicions of high-level S&P executives—that the REITs' exposure to climate-induced hurricane damage ranges in the hundreds of millions of dollars. "Their presentation was stellar," said Dr. Yuri Katz, who advised the students and is senior director of data science at S&P Global Market Intelligence. S&P Global is a publicly traded company headquartered in Manhattan with $6 billion in revenue.
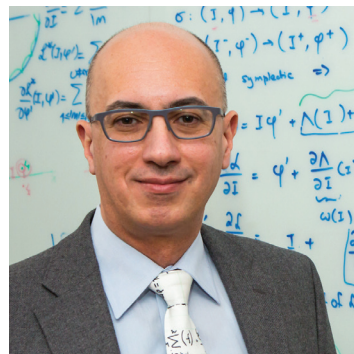
FEATURED FACULTY

Learn from world-class faculty, industry leaders and accomplished researchers. In our intimate classes, you are in constant dialogue with faculty, guest lecturers and peers, which creates a wealth of learning opportunities.

Dr. Marian Gidea
Mathematics

An expert in dynamical systems and applications, Dr. Gidea has co-authored two books, published dozens of articles and spoken at more than 50 conferences worldwide. In 2021, the National Science Foundation appointed him as

a program director in the Mathematical Sciences Division, a position awarded only to the most accomplished researchers. Dr. Gidea has received over $900,000 in research funding since he joined YU in 2013.

Dr. Marissa Barrera
Speech-Language Pathology

Assistant Dean of Health Sciences and Director, M.S. in Speech-Language Pathology (SLP), Dr. Barrera is an internationally recognized medical SLP

and Multiple Sclerosis Certified Specialist. She is a leading expert on the use of modalities for speech and swallowing rehabilitation and in the treatment of individuals with neurolog-

ical conditions. She has lectured in over 15 countries on clinical topics including dysphagia, NMES, motor speech disorders, cognition and neurogenerative diseases. She has over 80 research abstracts and has been featured in *Women's Health, Vice Magazine,* ADVANCE for SLP, and MTV.

Fayrose Fouad Abodeshisha
Physician Assistant Studies

Director of Clinical Education for the M.S. in Physician Assistant (PA) Studies, Professor Abodeshisha is a leader in both the surgical and educational arenas. As lead senior PA in trauma and acute care surgery at New York University School of Medicine/Bellevue

Hospital's Surgery Department, she acted as a senior PA on the surgical service, as PA Education Director, and as a clinical preceptor for PA students on their surgical rotations. She has been recognized for her outstanding dedication to PA education by her students and faculty colleagues alike.

Andy Catlin
Data Analytics and Visualization

Director of the Data Analytics and Visualization program, Andy Catlin is the founder of the tech startup Hudson Technology Group, which was acquired by Incepta. A data scientist and data system developer, he's skilled at financial instrument pricing and forecasting using the weighted Black

Scholes Merton model, as well as incorporating yield curve analysis into emerging markets products. Catlin's clients include Fidelity Investments, Smart Money, Donaldson, Lufkin and Jenrette, Manufacturers Hanover Trust, the National Football League and *The Wall Street Journal*.

Asaf Hochman
Digital Marketing and Media

An expert in startup/post-launch marketing, Asaf Hochman is global head of product marketing at TikTok, where he leads product strategy and growth for the company's ad network. As a former product strategy and marketing leader at Facebook, he spearheaded monetization solutions

for the world's leading media companies, including Disney, Viacom, NBC and *The New York Times*. Hochman began his career as a software engineer in the Israel Defense Forces, led global product marketing at the unicorn startup Outbrain, and held digital strategy roles at various ad agencies.

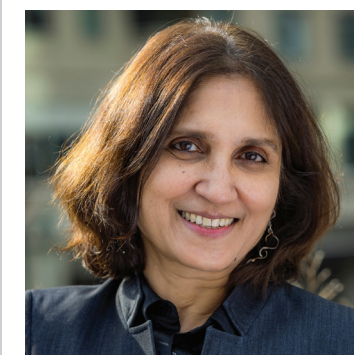**Dr. Julie Kardachi**
Occupational Therapy

Dr. Julie Kardachi, Director of the Occupational Therapy Doctorate, is an occupational therapist, educator and administrator who has practiced in Australia, Great Britain, and the United States. She served as the first OT representative on the professions group of Age-Friendly-NYC, a collaboration between the NYC Mayor's Office, the NYC Council, and the New York Academy of Medicine. Her research

interests include fall prevention in community-dwelling older adults and strategies to improve educational and clinical outcomes. She has published in peer-reviewed journals and presented at national conferences on a range of clinical and educational topics.

Dr. Rana Khan
Biotechnology Management and Entrepreneurship

Founding Director of the Biotechnology Management and Entrepreneurship

program, Dr. Khan is an expert in biotechnology education, cell and molecular biology, transcription regulation and gene expression. She spent her early career as a bench scientist working in the U.S. Department of Agriculture, later becoming vice dean in the graduate school at the University of Maryland University College (UMUC) and program director for the school's professional science master's degree in biotechnology. There, Dr. Khan implemented a variety of initiatives, including an e-mentoring program, industry-sponsored capstone projects and a biotechnology symposium.

Lorraine Marchand
Biotechnology Management and Entrepreneurship

A former executive for Bristol Myers Squibb, IQVIA, Cognizant, Covance/Labcorp and the National Institutes of Health, Marchand is currently General Manager of Life Sciences for IBM Watson Health Life Sciences. She is the co-founder of four startups and has led more than 200 clinical programs from preclinical to NDA submission and launch. At Princeton University, Marchand was the James Wei Visiting Professor of Entrepreneurship. Her book, *The Innovation Mindset* (Columbia University Press, 2022), is the culmination of a life devoted to innovative thinking, offering a step-by step approach to turning big ideas into reality.

Joseph Panzarella
Digital Marketing and Media

Director of the M.S. in Digital Marketing and Media program, Joseph Panzarella is a senior-level analyst and marketing professional specializing in organic social and online media advertising and the application of advanced analytical techniques to drive marketing communications and business intelligence. He's leveraged those skills for well-known brands such as Astellas, Cadillac, State Farm, Verizon, AT&T, Pfizer, Avis Budget Group and the U.S. Department of Commerce. He's provided marketing analytics support for the 2010 U.S. Census and Brand USA—the U.S. government's first global travel organization encouraging international travelers to visit the United States and supporting the growth of travel-related American jobs.

Dr. Emil Prodan
Mathematics

Dr. Emil Prodan, Professor of Physics, has a background in mathematical physics, specifically in operator theory, spectral analysis and constructive quantum field formalism. He recently received a three-year National Science Foundation grant for "Topological Dynamics of Hyperbolic and Fractal Lattices," and was among the 2016 recipients of the Keck Foundation research awards for the collaborative project "Engineering New Materials Based on Topological Phonon Edge Modes." In 2011, he received the NSF CAREER award for his proposal "Strong Disorder and Electron Interaction Effects in Topological Insulators."

Dr. Pablo Roldan
Artificial Intelligence

Assistant Professor and Director of the M.S. in Artificial Intelligence program, Dr. Roldan is an expert in financial mathematics, dynamical systems and

machine learning. He has spoken at more than 20 international conferences, and received research grants from the National Science Foundation, CONACYT, the Spanish Ministry of Science, and the European Regional Development Fund. Dr. Roldan concentrates on the research and development of complex and real-world domains and applications.

Sivan Tehila
Cybersecurity

Cybersecurity expert and entrepreneur Sivan Tehila is Director of the M.S. in Cybersecurity and founder and CEO at Onyxia, a stealth mode security startup. Following a 10-year career in the Israel Defense Forces, Tehila worked as an information security officer and profiler for an Israeli defense company and held high-level security positions

at a variety of other high-profile corporations. Committed to promoting women in cybersecurity, she is the founder of Cyber Ladies NYC and was recognized as a 2020 Woman to Watch in IT Security. In 2021 and 2022, she led a team of cybersecurity students to win first place in ISACA's annual Cybersecurity Challenge.

Dr. Youshan Zhang
Artificial Intelligence

Assistant Professor of Computer Science and Artificial Intelligence, Dr. Zhang's research interests lie in AI, machine learning, computer vision, transfer learning, manifold learning and shape analysis. His research focuses on developing computational methodologies for understanding problems in medical image analysis (such as using machine learning methods to discover the underlying mechanisms of diseases) and computer vision (such as classification, segmentation, and object detection). He is also

excited about interdisciplinary research and collaborating with researchers from related fields.

Dr. Fredy Zypman
Physics

Dr. Fredy Zypman, Chair of the Department of Physics, is an expert in image reconstruction with scanning probe microscopes, atomistic modeling of materials, quantum optics, and mathematical optimization. He has co-authored more than 100 peer-reviewed articles and has received

research grants from NSF, NIH, NASA and the U.S. Department of Energy, as well as a NASA Faculty Research Fellowship and a Research Corporation award. Dr. Zypman also holds three patents on probe microscopy.

STATE-OF-THE-ART
LABS

SECURITY OPERATIONS CENTER (SOC)

INTERNET OF THINGS (IoT) LAB

INNOVATION LAB

SPEECH-LANGUAGE PATHOLOGY VIRTUAL COMMUNITY CLINIC

ACTIVITIES OF DAILY LIVING LAB

NEURO-SENSORY LAB

MODALITIES LAB

WHY KATZ?

With a vibrant campus life and New York City at your fingertips, the Katz School is the place where bold, purpose-driven people come to create, connect and explore.

KEVIN SUCKIEL (U.S.)
M.S. in Cybersecurity
Staff Consultant, Red Team—Ernst & Young

" Katz professor David Schwed said to me: 'pick something you want to do and be good at it.' I knew I wanted to be good at penetration testing, so that's all I focused on. I set up a lab at home and practiced for hours, day in and day out, using online resources. I didn't stop. I was very hungry. The cybersecurity master's program gave me a solid theoretical grounding. The professors at Katz are incredible at what they do—very talented, accessible and encouraging. "

XIAOLAN LI (China)
M.S. in Artificial Intelligence
Associate Software Engineer, JPMorgan Chase & Co

" The Katz School's curriculum is closely aligned with the skills required in the professional world, which made it easier for me to navigate the work world after graduation. The small classes meant I could really connect with faculty and classmates, and I had great opportunities to gain hands-on experience through faculty research and a summer internship at S&P Global. "

JESUS OLIVERA (U.S.)
M.S. in Data Analytics and Visualization
Advisory Client Engineering Data Scientist—IBM

" Thanks to the data analytics master's program, I have gained numerous technical skills that allowed me to join one of the most prestigious technology companies in the world. I'm now designing and building solutions that I never thought I would. I needed that extra level of academic experience from Katz to be able to talk about the technical side of the business at IBM with confidence. "

ORLY SCHEJTER (Colombia)
M.S. in Cybersecurity

" YU offers an exceptional curriculum with personalized courses. It's very easy to relate to the teachers and engage in class discussions. The Katz School of Science and Health was my first choice for grad school and I recommend it 100 percent to anyone, especially international students looking for a world-class education. "

DANIEL GOLDSMITH (U.S.)
M.A. in Mathematics
Founder and CEO, Heights Labs

" Throughout my experience at YU and Katz, I was encouraged to present research at leading international conferences, host events and guest speakers on campus, and hone my abilities as a researcher through intensive one-on-one collaboration with professors. The degree of freedom and autonomy granted at the master's level is amazing, and I believe it is fundamental to the success of Katz students and alumni. Overall, I associate a feeling of fun and exploration with my time here. Even my thesis presentation was fun, which is a very strange thing to say. But it was! "
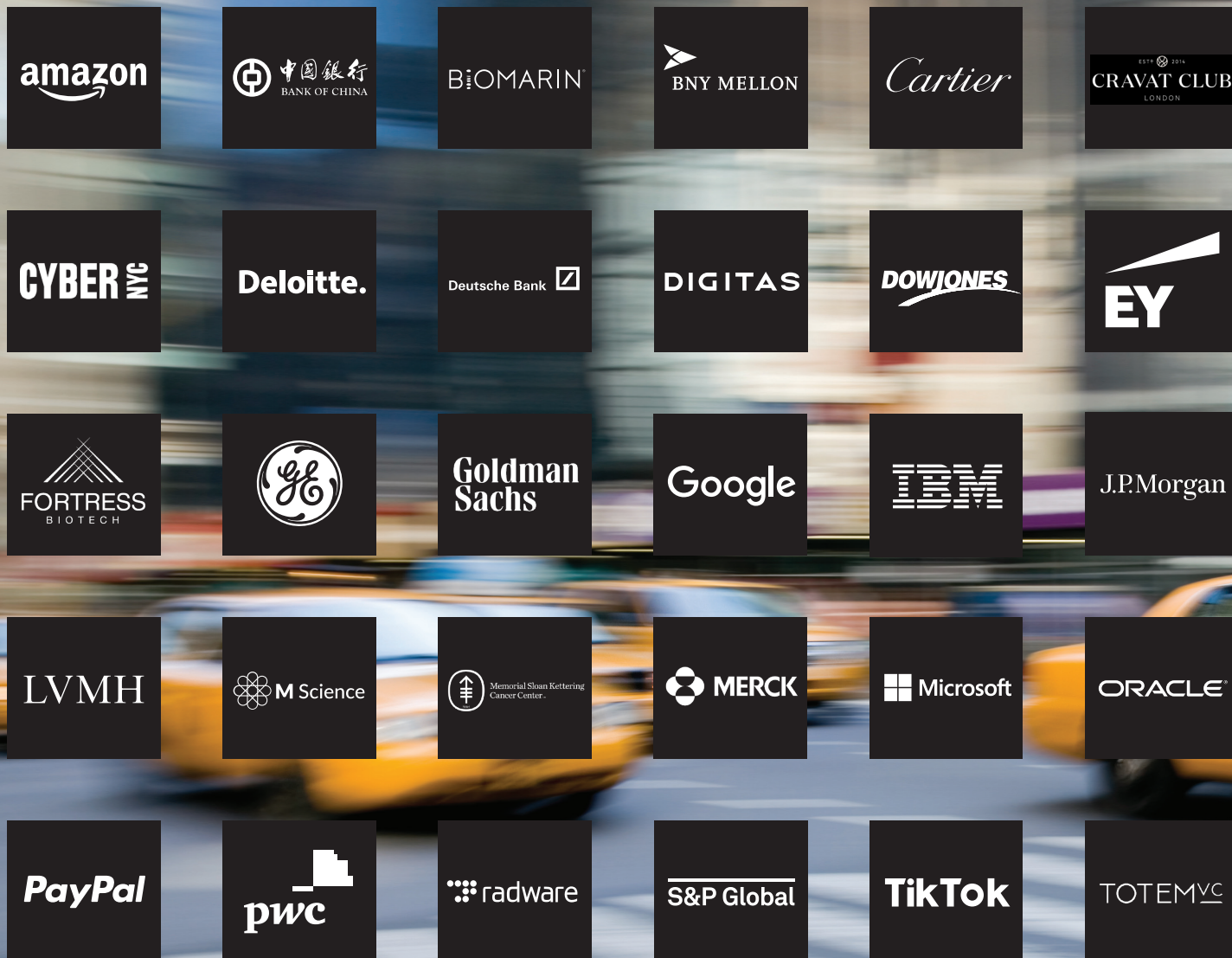
JINGYUAN WANG (China)
M.S. in Digital Marketing and Media

" When I realized that New York was a place that could provide me with countless inspirations, I decided to come here to continue my studies, to learn more about the media industry, and pursue my dreams. Out of the many prestigious universities in New York, I chose Yeshiva University to begin my graduate studies. As a student at the Katz School, you are free to use your talents and ideas to their fullest extent. "

THE VALUE OF
A KATZ DEGREE

With a 95 percent employment rate within six months of graduation, Katz graduates land dream jobs and impactful careers with top organizations.

HOW TO APPLY

At Katz, we take a holistic approach to application review. We look for students with intellectual curiosity, a capacity for rigorous academic work, and a commitment to work hard and finish what they start.
If you're interested in joining an inspiring community of ambitious innovators, we encourage you to apply.

STEM PROGRAMS

All applicants to Katz School STEM master's programs must submit the following:

- Completed online application
- US $50 non-refundable application fee
- Supporting documents, including:
  - Transcripts from all colleges and universities attended
  - Statement of purpose
  - Resume/CV
  - Proof of English proficiency (if you are an international student)
  - Recommendation letters (required for Data Analytics, Artificial Intelligence, Math and Physics programs only)
  - GRE and/or GMAT scores (required for Math and Physics programs only)

Applicants must also meet any knowledge requirements—including any prerequisite coursework—for their intended program. Please refer to the program website for more information.

HEALTH SCIENCE PROGRAMS

Admissions requirements and application information for Katz School's health science programs are available on the respective program web pages.

STEM FELLOWSHIP

Join the next generation of science and tech innovators. As a STEM Fellow, you'll receive industry mentorship; showcase and publish your research at Katz School's annual Symposium on Science, Technology and Health; and receive a scholarship ranging from $9,000 to $15,000, reducing total tuition to $25K for your entire graduate degree, start to finish—whether you complete your degree in one or two years.

The STEM Fellows program is open to both U.S. and international Katz School at Yeshiva University students and is approved for STEM-OPT.

Learn more at www.yu.edu/katz/stem-fellows.

READY TO APPLY?

Contact katzgrad@yu.edu or visit www.yu.edu/admissions for more information.

We're happy to speak with you about any aspect of the admissions process as well as your academic and career goals.

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Web: www.yu.edu/katz

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in **Katz School at Yeshiva University**

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