Subj line: Unique graduate degree opportunity for stats majors

Greetings,

If you are interested in pursuing a STEM-based master's degree, we invite you to consider the dynamic field of quantitative finance.

Quant finance is a rapidly growing industry with strong future job prospects, offering master's graduates a variety of positions with high compensation opportunities and challenging, impactful work.

For over 30 years, the MSCF program has prepared thousands of students for successful quant finance careers, with many coming from statistics undergraduate degrees. In fact, math/statistics majors comprised 52% of our fall 2025 class.

We invite you to review the attached brochure and download our <u>2025 Employment</u> <u>Report</u> on MSCF graduates' hiring companies, job titles, and compensation for full-time roles and internships.

Please feel free to reach out to us at <a href="mscf@cmu.edu">mscf@cmu.edu</a> with any questions. We are here to help!

Sincerely,

Warm Regards,

Robert Simon

**MSCF** Executive Director

# Carnegie Mellon University Master of Science in Computational Finance



# QUANTIFIABLY DIFFERENT



"At MSCF, our three decades of success is rooted in the dynamic collaboration across four esteemed schools. Fueled by student, alumni, recruiter, and advisory board insights, we dedicate ourselves to innovative curriculum design and exceptional student experiences. Join us in this transformative journey, where your success in quantitative finance is our ultimate commitment!"



"At MSCF, your success in quantitative finance is our ultimate commitment."

Known worldwide for computer science, math and applying the tools of quantitative analysis to business, Carnegie Mellon created the first quantitative finance degree in 1994. Competing now against numerous programs, Carnegie Mellon's Master of Science in Computational Finance (MSCF) degree is regarded by many as the leading program of its kind.

Our integrated curriculum, made possible by the interdisciplinary joint venture of four Carnegie Mellon colleges is designed specifically for the careers our students begin upon graduation. The four-college design allows students to obtain the fundamental underpinnings needed in each area with the flexibility for depth therein.

Our students' impressive job placement record, both in summer internships and in full-time jobs, attests to the high regard global financial services firms have for the education we provide.

MSCF is the talent of choice for industry employers; whether you are straight out of school, currently working in finance or a career-changer, the MSCF program can give you the knowledge and connections you need to pursue an exciting career in quantitative finance. You will join a select and influential alumni network working in many industry segments and functional areas across the world!

We welcome your interest in the MSCF program and are excited for you to apply.

**Executive Director** 

Computational Finance Program

# A CUSTOM-TAILORED PROGRAM

While the terms quantitative finance, computational finance, mathematical finance and financial engineering are often used interchangeably, there are subtle but significant differences in their meanings. Financial engineering programs often emphasize finance and financial markets at the expense of more rigorous computing and quantitative skills. Mathematical finance programs may focus more on theoretical math than real-world applications. We prefer "computational finance" as we have created an applied course of study with programming embedded throughout our curriculum.

This computational emphasis gives our students an advantage in today's increasingly technical financial markets. MSCF's reputation for excellence lies squarely on the strength of our faculty and the custom-tailored courses developed and updated over the past twenty-seven years. MSCF's unique blend of carefully coordinated quant, applied finance and computational coursework is the best of its kind.

We separate our three-semester program into six "mini" semesters that are seven weeks in duration. Each mini builds upon the prior to develop breadth and depth. Combined with a number of applied learning opportunities including our Trading Club and Machine Learning Capstone course, MSCF graduates are prepared to make an immediate impact in their careers.





#### **AUG - ORIENTATION**

The month-long MSCF Orientation program provides classes in math, probability, programming, financial markets and communication skills. Preparation also begins for the internship search.

#### **FALL - MINI 1&2**

Mini 1 provides coursework in fixed income, investments, data science and programming, laying the groundwork for Mini 2 courses in asset pricing, stochastic calculus and further instruction in machine learning and programming. Business Communications I covers public speaking and written communications.

#### SPRING - MINI 3&4

Stochastic calculus, computational and statistical methods are the focus of the spring mini semesters. Courses include Financial Computing, Options, Simulation for Option Pricing and Financial Time Series Analysis. Additional communications coursework helps enhance presentation and communication skills.

#### SUMMER INTERNSHIP

A required summer internship experience allows students the opportunity to apply skills learned in the first year of the program.

#### FALL - MINI 5&6

The program concludes with a combination of required and elective applied coursework that allow students to deepen their knowledge in specific areas of quant finance such as machine learning, deep learning, natural language processing, financial computing, derivative modeling and algorithmic trading. Students often take other Carnegie Mellon master's- and PhDlevel computer science and data science courses.



# NEW YORK CITY AND PITTSBURGH

The program is delivered live between our New York location, near the New York Stock Exchange, and our Pittsburgh location, Carnegie Mellon's main academic hub. Regardless of the location, students receive the same instruction from world-class faculty and professional support from career services staff.

This is not an online program. All MSCF courses have live instruction that originates from either location. Course sessions are broadcast to the alternate classroom in high-definition video with full two-way audio to enable seamless interaction between professors and students. While our faculty mainly reside in Pittsburgh, they teach from the New York location

twice every seven weeks and remain in New York following the lectures for discussion and social events.

Access, timing and success rates for internships and full-time opportunities are identical, whether in Pittsburgh or New York. We offer students at each location dedicated MSCF career coaches who assist students with a range of job search activities from career planning and interview preparation to advanced networking skills and on-campus recruiting activities.





The program is delivered live between our two locations -**New York City** and Pittsburgh



#### **NEW YORK**

- Central location to Wall Street recruiters and alumni
- Non-MSCF coursework options available online



#### **ALL MSCF STUDENTS**

- Faculty support
- Dedicated career services.
- Access to student clubs
- Individual alumni mentors



#### **PITTSBURGH**

- Traditional campus environment
- Non-MSCF coursework options



"Through the MSCF program, I gained the quantitative, computational, communications and soft-skills needed to build both my confidence and the knowledge needed to make an impact in industry. I also gained a powerful network of alumni that provided a wealth of insights, resources and support to further advance my career."

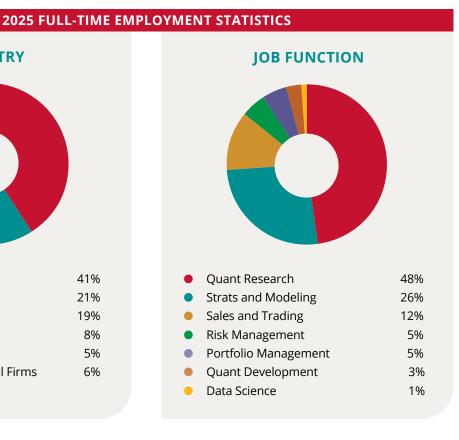
MICHELLE CHEN, CLASS OF 2011

# CAREER FOCUSED

MSCF graduates pursue careers across multiple industry segments and job functions. While approximately 93% of graduates accept full-time jobs in the United States, some choose to work in other global financial centers including London, Hong Kong and Singapore.



### **INDUSTRY** 41% Investment Bank Hedge Fund 21% Asset Management 19% **Proprietary Trading** 8% FinTech 5% Other/Other Financial Firms 6%







#### **SAMPLE OF RECRUITERS**

#### **Investment Banks**

- · Bank of America
- Barclays
- BNP Paribas
- Citi
- Goldman Sachs
- J.P. Morgan
- Morgan Stanley
- UBS

#### **Proprietary Trading Firms**

- Akuna Capital
- Chicago Trading Company
- DRW
- Geneva Trading
- IMC Trading
- TransMarket Group

#### **Asset Management / Hedge Funds**

- AOR
- BlackRock
- Citadel
- Exodus Point Capital
- Millennium Manangement
- Point 72
- Squarepoint Capital
- Two Sigma

#### FinTech / Analytics / Consulting

- Bloomberg
- Ernst & Young
- Moody's
- Qontigo
- Tradewell Technologies
- Virtu Financial

# NETWORKING AND CAREER COACHING

We invest heavily in the career services we provide our students and our employment rates have been consistently strong. More than 50 of the world's largest financial services firms as well as many smaller hedge funds, fintech companies, analytics firms and trading companies actively recruit from the MSCF program. Many of our 2,000+ alums are eager to hire their fellow alums into their firms. Our career office does much selling on your

behalf but, more importantly, we give you the tools you need to sell your skills and capabilities. Our career coaches in each location and a full-time Communications Development Coach work closely with you to help you craft a compelling resume, build your interview, networking and negotiating skills, and learn appropriate dress, deportment and etiquette.



FOR MORE CAREER SERVICES INFORMATION VISIT: CMU.EDU/MSCF/CAREERS

	MEAN	MEDIAN	MINIMUM	MAXIMUM
BASE COMPENSATION*	\$ 134,259	\$ 130,000	\$ 87,500	\$ 200,000
SIGNING BONUS	\$ 26,806	\$ 25,000	\$ 5,000	\$ 100,000
SUMMER 2022 INTERNSHIP**	\$ 10,217	\$ 10,000	\$ 1,499	\$ 20,000

<sup>\*</sup> Denotes a salary in the APAC region converted to USD. \*\* Internship salaries are monthly.



#### MSCF SPEAKER SERIES

Throughout the academic year, the MSCF Speaker Series features industry practitioners who share their experiences with students, providing excellent networking opportunities and first-hand knowledge about the products, markets and challenges in the industry.



"Quantitative finance is a dynamic field, evolving with new regulation, introduction of new investment types, shifting market environments and crises. Each shift requires new approaches to pricing and analytics. Graduates of MSCF remain wellpositioned to make significant contributions to the financial industry and the growing data analytics & FinTech space."

— JENNIKA GOLD THOMAS, CLASS OF 2002

### ARE YOU READY?

The MSCF application review process is holistic in nature. All components of the application are scrutinized to identify those candidates that have the potential for success academically and professionally.

Given the quantitative nature of the program, candidates will have taken math coursework beyond calculus including Linear Algebra and Calculus-Based Probability. Additionally, applicants will have taken a least one course in an object-oriented programming language such as C++, Python, Java or C#.

Academics are just one area of importance in our review process. Integrity, prior professional experience, academic research, interest in the financial markets and communication skills are all important factors in the admission decision. Applicants need to express their career goals clearly and to articulate how their prior academic and professional experiences combined with the MSCF degree will help them achieve their goals.



FOR MORE DETAILS ON THE APPLICATION PROCESS VISIT: CMU.EDU/MSCF/ADMISSIONS

**CLASS SIZE** 

52

56

Pittsburgh

**New York** 



#### **APPLICATION REQUIREMENTS**

- Online application
- Professional resume
- 3 essays (2 written, 1 verbal)
- 3 letters of recommendation
- Official GRE or GMAT scores
- Duolingo/TOEFL/IELTS (non-native **English speakers**)
- \$125 fee

#### **DEMOGRAPHICS**

78% International

37%

Women

23% **Full-Time Work** Experience

#### **AVERAGE GRE**

169 **Ouantitative** 

161 Verbal

#### **MSCF MERIT SCHOLARSHIP**

The MSCF Merit Scholarship is awarded to select students based on their qualifications relative to the overall applicant pool. All admitted students will be considered for a partial MSCF Merit Scholarship and will be notified of awards in the admission letter.

	APPLICATION DEADLINE	DECISION RELEASE
ROUND ONE	Early December	Early March
ROUND TWO	Early March	Early May

Note: we highly recommend that non-US citizens apply in Round 1 in order to allow sufficient time for processing of your visa documents



# MASTER OF SCIENCE IN COMPUTATIONAL FINANCE



#### **UNIQUE FOUR-COLLEGE JOINT VENTURE**

Computer Science Department

Department of Mathematical Sciences

Department of Statistics & Data Science

Tepper School of Business

#### **CARNEGIE MELLON UNIVERSITY**

MSCF Program 5000 Forbes Avenue TCS Hall, 2nd Floor Pittsburgh, PA 15213

#### MSCF ADMISSIONS OFFICE

Telephone: 412-268-3679 mscf@cmu.edu



#### STATEMENT OF ASSURANCE

Carnegie Mellon University does not discriminate in admission, employment, or administration of its programs or activities on the basis of race, color, national origin, sex, handicap or disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Furthermore, Carnegie Mellon University does not discriminate and is required not to discriminate in violation of federal, state, or local laws or executive orders.

Inquiries concerning the application of and compliance with this statement should be directed to the university ombudsman, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA 15213, telephone 412-268-3930.

Obtain general information about Carnegie Mellon University by calling 412-268-2000.