Berkeley Haas

MASTER OF FINANCIAL ENGINEERING

In **one year**, the Berkeley MFE Program will prepare you with the knowledge and skills necessary to **propel you to the cutting-edge of finance and data science**.

The Program

Coursework

- One-year master's degree program
- Top faculty (ladder faculty and industry professionals)
- Designed exclusively for MFE students
- 95% of the work is team-based
- Independent study projects within quantitative finance and data science
- Financial Practice Seminars for enhanced learning and networking with industry

Internship

- Three-month paid internship any time during the program
- A very strong connection to Wall Street and Silicon Valley

The Berkeley MFE Program has been **ranked #1** by *the TFE Times and* a top 10 quant school by *QuantNet and RiskNet*.

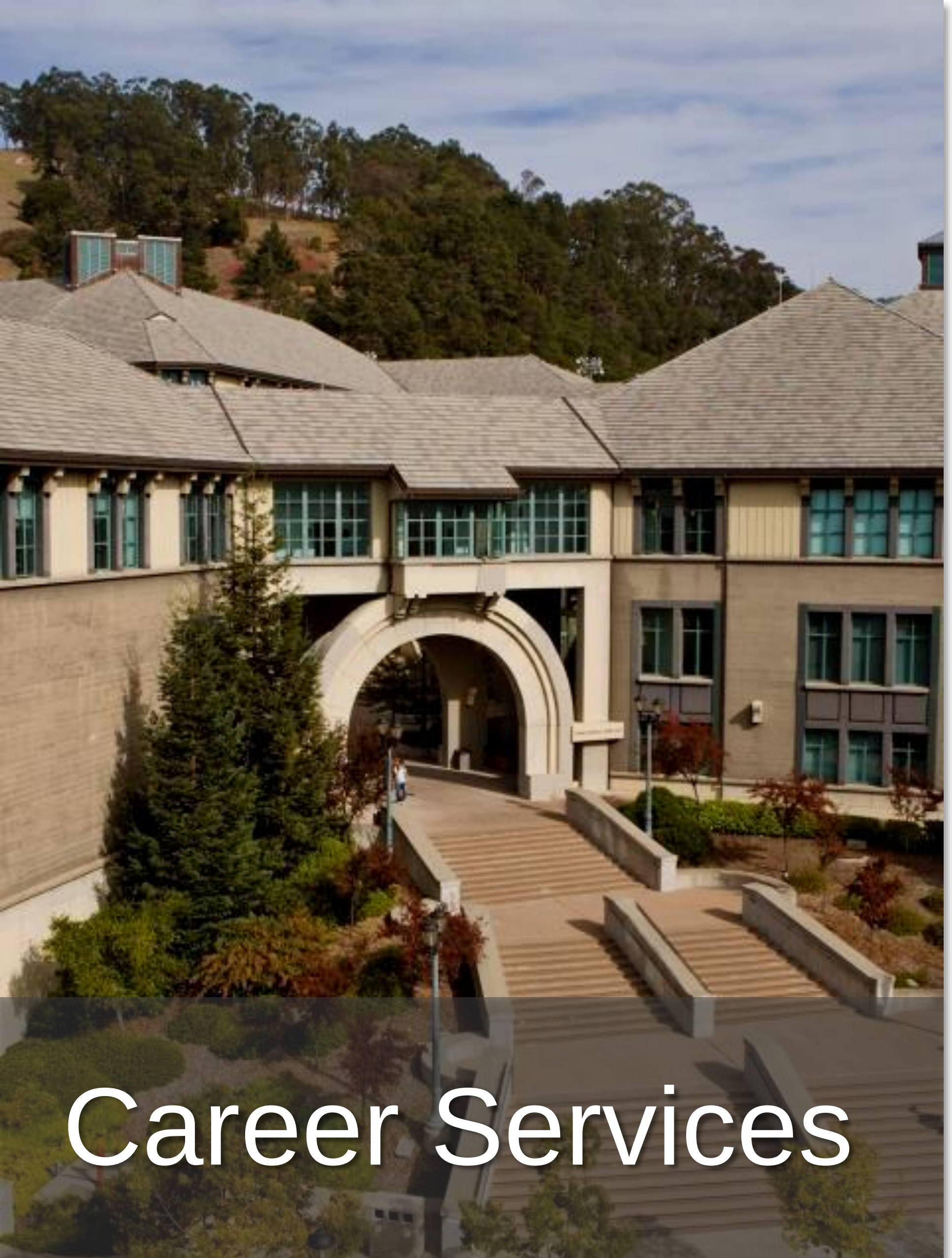
Proven Track Record of Successfully Launching Careers

- Highly personalized career services
- Strong internship and full-time placement program
- Highest salaries compared to any similar program in the world

  Class of 2021 Mean First Year Total Compensation: $176,465

  Class of 2021 Mean First Year Base Compensation: $125,821

- See our website for more info: https://mfe.haas.berkeley.edu/careers/career-paths



Career Services

- Recognized experts who work <u>with</u> you and <u>for</u> you
- MFE resume book & job posting website
- Financial Practice Seminars
- MFE alumni network, Haas alumni and broader UC Berkeley community
- Mock interviews
- Workshops
- Job fairs
- UC Berkeley Career Center

Career Opportunities

Broad Range of Opportunities

- Investment Banks
- Hedge Funds
- Commercial Banks
- Consulting Firms
- Fintech
- Asset Management Firms
- Trading Firms
- Rating Agencies
- Start-Ups
- Tech

Wide Variety of Functions

- Portfolio Management
- Financial Modeling, Research & Analysis
- Corporate Finance / Treasury Department
- Financial Programming
- Quantitative Analysis
- Sales & Trading
- Risk Management
- Derivatives Pricing / Structuring
- Strats
- Data Scientist

Financial Practice Seminars & Recent Recruiters of MFE Students

amazon

McKinsey & Company

citi

AQR

Morgan Stanley

BARCLAYS

CITADEL

twitter

Goldman Sachs

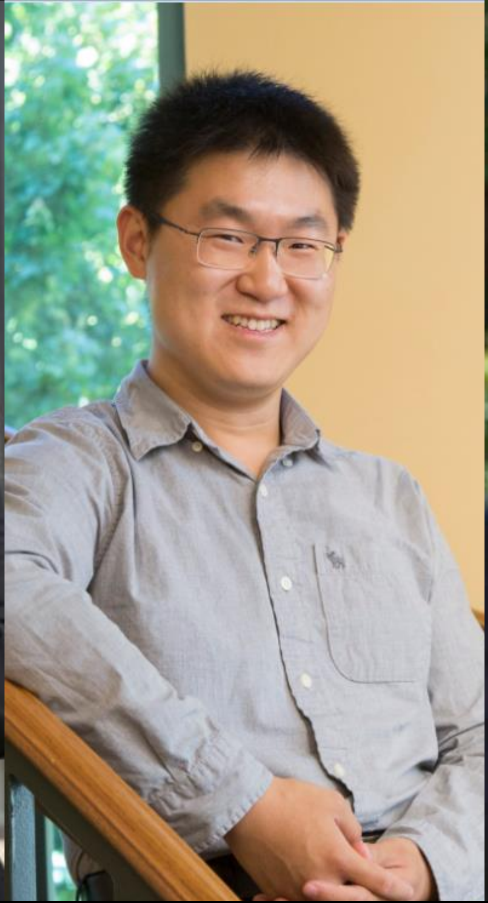
BNP PARIBAS

Bank of America

BLACKROCK

JPMorganChase

UBER



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Prior Degrees:
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Careers | Our Students & Alumni

Rajat Agarwal
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Chief Credit Officer
Cleo AI
San Francisco, CA
Prior Degree:
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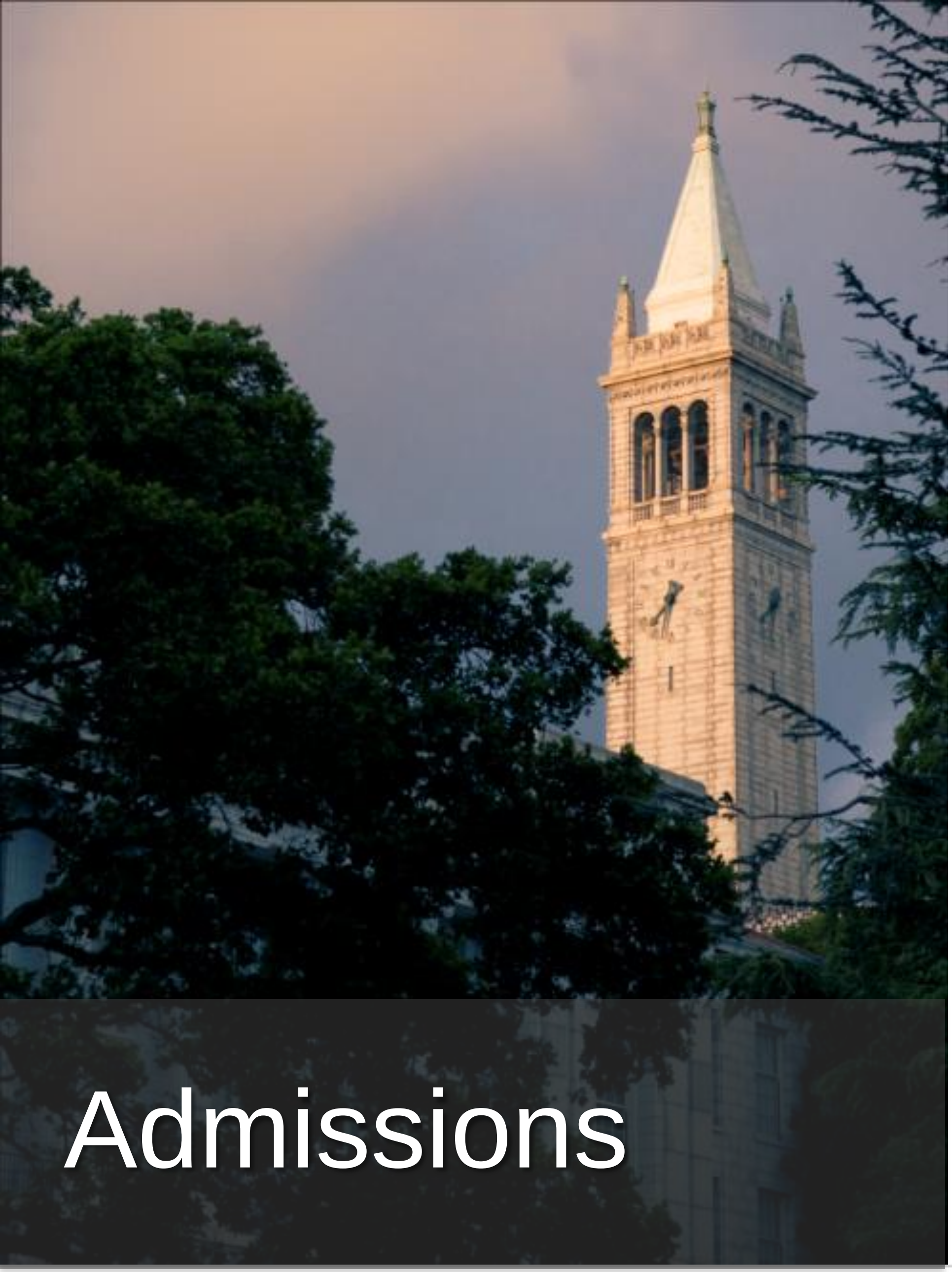
IIT Delhi, India

Sophia Chami
MFE 12
Principal Quant
Man AHL
London, United Kingdom
Prior Degree:
M.Eng., Mathematics and
Computer Science
Ecole des Ponts ParisTech

Dieter Dijkstra
MFE 14
Trader
HC Technologies
London, UK
Prior Degrees:
BS + MS, Mathematics and
Computer Science
Oxford, UK

Craig Dana
MFE 16
Sr. ML Engineer
EvolutionIQ, New York, NY
Prior Degree:
BS, Chemical Engineering
Rutgers University
Ph.D., Chemical Engineering
UC Berkeley



Admission Info and Deadlines

Admissions

- Undergraduate degree (comparable to US 4-yr degree)
- GMAT or GRE exam
  - We only look at percentiles
- TOEFL/IELTS for select international students
  - 90 IBT or 7 overall band
- Two letters of recommendation
- Interview (by invitation only)

Deadlines

- 4 deadlines: Jan, Mar, June, Oct
- Rolling admission
- Applications received after Oct deadline will be reviewed on a space available basis

We Look For:

- Strong quantitative skills
- Strong programming skills
  - Python, C++
- Machine Learning coursework
- Strong communication skills
  - Ability to explain complex concepts in layman's terms
- Strong intuition and logic
- For more information on prerequisites: https://mfe.haas.berkeley.edu/admissions/prerequisites

Strong Quantitative Background

- Calculus
- Linear Algebra
- Partial Differential Equations
- Numerical Analysis
- Advanced Statistics and Probability
- Econometrics*

Strong Finance Background

- Corporate Finance
- Macroeconomics
- Investments
- CFA exams
- (2-3 courses total in finance/economics)

Computer Programming

- C++
- Python
- Machine Learning

Other Skills

- Writing
- Communication
- Presentation

Prerequisites

Student Profile

Class of 2021-22 (graduating in 2022)

What types of **backgrounds** do applicants commonly have?	Math, Statistics, Engineering, Finance, Natural Sciences, Economics, Computer Science, and related fields
What **degree levels** have they attained prior to the program?	Bachelor: 57% Master: 43%
Is there **basic biographical info** on the current class?	Average age: 25 Men: 72% Women: 28%
What is the **average GMAT/GRE** score?	Quantitative: 94%ile Verbal: 81%ile
Which **countries** do MFE students come from?	The United States, China, India, Europe, Hong Kong, Canada, Australia, Russia, South Africa, Morocco, Peru, Armenia, Israel, Philippines, S. Korea, Taiwan, and Singapore

Information for International Students

Loans/Funding

- Loan available up to $60,000
- Two different loan options; rates and fees are slightly different
- 20-25 year repayment options, no pre-payment penalties
- Internship can offset the cost of tuition
- More info: https://haas.berkeley.edu/financial-aid/master-of-financial-engineering/

Spring Term (Mar-May)

Investments and Derivatives
Empirical Methods in Finance
Stochastic Calculus with Asset Pricing Applications

Summer Term (Jun-Aug)

Derivatives: Quantitative Methods
Fixed Income Markets
Financial Data Science

Fall Term (Aug-Oct)

Required: Financial Risk Measurement and Management

Electives:

- Asset Backed Security Markets
- International Equity & Currency Markets
- High-Frequency Finance
- Topics in Financial Engineering
  - Intro to Deep learning
  - Deep Learning for Financial Time-Series
- Independent Study

Winter Term (Jan-Mar)

Required: Applied Finance Project

Electives:

- Dynamic Asset Management
- Behavioral Finance
- Ethics and Regulation in Finance
- Financial Innovation with Data Science Applications

Internship Period

- 10-12 weeks
- Often leads to a full-time offer
- CPT for International Students

Student Services

- Orientation Week
- Teamwork
- FESA: The Financial Engineering Students Association
- Activities and Events
- Building a network that will last a lifetime

High Frequency Trading Lab

The Berkeley MFE Program offers students access to a variety of financial databases, statistical and analytical software packages, and the highest quality financial data available direct from the exchanges.

Finance/Programming Prep

Coursework at any accredited institution

CFA Program

UC Berkeley Extension
Coursera, edX, Udacity

Math/Statistics Prep

Any accredited institution
Online resources:

- *Columbia Video Network*
- *Applied Math Online at University of Washington*
- *Netmath at UIUC*
- *Harvard Extension School*
- *Stanford School of Continuing and Professional Studies*
- *University of Athabasca (must achieve 80% or better)*

MFE pre-program courses (offered Jan – Mar)

FOR COMPLETE RESOURCE LIST: https://haas.org/3fc6yWL

Recommended Reading

- *Heard on the Street: Quantitative Questions from Wall Street Job Interviews* by Timothy Crack
- *A Practical Guide to Quantitative Finance Interviews* by Xinfeng Zhou
- *Options, Futures, and Other Derivatives* by John Hull
- *Principles of Corporate Finance* by Brealey, Myers, and Allen
- *Macroeconomics* by Charles Jones
- The *Wall Street Journal,* the *Financial Times,* and the *Economist*

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