

# Recruiting & Interview Prep

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# Recruiting

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The vital aspects of landing a job:

Applications

Networking

Interview Prep

# Where Should I Apply?

## Buy Side

### Hedge Funds, Prop Trading Firms

Citadel, Two Sigma, Jane Street

### Asset Management

Prudential, BlackRock

### Market Making

Jane Street, Virtu

## Sell Side

### Bulge-Bracket Banks

Goldman Sachs  
Morgan Stanley  
JP Morgan  
Bank of America

### Large/Mid-Sized Banks

BNP Paribas, Wells Fargo, RBC

## Roles Include

Quantitative Research  
High-Frequency Trading (buy-side and market makers)  
Derivatives (Exotics) Pricing and Structuring (sell-side)  
Risk Management

# Best Companies for Rutgers Students

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Morgan Stanley

TRILLIUM

SIG  
SUSQUEHANNA

citi

BELVEDERE  
TRADING

akuna capital

optiver



BNP PARIBAS



Deutsche Bank

# Alternative Fields/Industries

## Finance



Morgan Stanley

J.P.Morgan

Bank of America



Goldman Sachs



Deutsche Bank



BNP PARIBAS



UBS



Prudential



Bank

QF QUANT  
FINANCE

Johnson & Johnson

## Technology



Bloomberg



amazon



## Consulting

McKinsey & Company

accenture



Deloitte.

# First Step: Fix Your Resume

- Companies are looking for specific things for a quant position
- Highlight all of your technical/programming skills or experience
  - Work Experience
  - Side Projects
  - Languages Learned
  - Courses
  - Extracurricular Activities
  - Leadership Experience/Positions
- They want to know if you can code and do math!

[Name]  
[Physical Address]  
[Phone Number] | [Email Address]

## EDUCATION

[University Name] [City], [State/Country]  
Bachelor of [Arts/Science] in [Major] Expected [Graduation Date]  
 • GPA: [xx] / 4.0; SAT: [xx] [If you're outside the US, list grades under your system here instead]  
 • Honors: [xx]  
 • Relevant Coursework: [Any courses related to the field of the opportunity you are applying for]

[High School Name] (include if first-year/early sophomore) [City], [State/Country]  
Bachelor of [Arts/Science] in [Major] Expected [Graduation Date]  
 • GPA: [xx] / 4.0 [If you're outside the US, list grades under your system here instead]  
 • Honors: [xx]  
 • Relevant Coursework: [Any courses related to the field of the opportunity you are applying for]

## WORK & LEADERSHIP EXPERIENCE

[Company Name] [City], [State/Country]  
[Position Title] [Start Date] – [End Date]  
 • [Summary sentence stating what you did and the overall results of your work]  
 • [Led team's efforts to do xx by creating/managing xx; resulted in increased sales / profits / cost savings]  
 • [Analyzed options available for xx and recommended xx based on time and resource considerations; implementation led to successful marketing of xx]

[Company Name] [City], [State/Country]  
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 • [Summary sentence stating what you did and the overall results of your work]  
 • [Led team's efforts to do xx by creating/managing xx; resulted in increased sales / profits / cost savings]  
 • [Analyzed options available for xx and recommended xx based on time and resource considerations; implementation led to successful marketing of xx]

[Student Club Name] [City], [State/Country]  
[Position Title] [Start Date] – [End Date]  
 • [Summary sentence stating what you did and the overall results of your work]  
 • [Recruited over xx members to club with promotional campaign]  
 • [Organized conferences, speaker events and community events]

## SKILLS, ACTIVITIES & INTERESTS

Languages: Fluent in [xx]; Conversational Proficiency in [xx]  
 Technical Skills: [List any programming languages – not MS Office/Excel]  
 Certifications & Training: [Any extra courses or programs relevant to finance]  
 Activities: [Student Clubs, Volunteer Work, Independent Activities]  
 Interests: [Keep this to 1-2 lines and be specific; do not go overboard]

# Tips on Your Resume

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- List any and all honors and awards from college (scholarships, Dean's List, high SATs,, etc.)
- List your major GPA if your overall GPA is poor
- Include high school experience as a freshman, but try to rely on only college experiences in sophomore year
- Use an active voice, not passive (and use past tense!)
- Quantify what you did, and focus particularly on the results of your actions (your impact) in that specific role
- Attention to detail on formatting
- Tailor your resume to the role you are applying for
- One page MAX
- Format: utilize the **Mergers & Inquisitions Resume Template**

# Timeline

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## Informational Sessions and Coffee Chats

Be sure to look out for any on-campus and off-campus events firms post

## General Applications Open

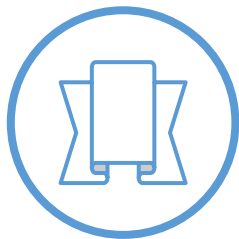
Be sure to monitor company websites and Handshake to find exact dates





# Steps to Take

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## Freshman

Start Developing Technical Skills

Attend Informational Sessions

Get ANY Internship



## Sophomores

NETWORK NOW

Rigorous Interview Prep

Aim for a technical internship at a better known company



# NETWORKING

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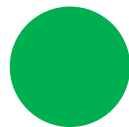
Cold email. Set up coffee chats. Learn about people's jobs. Expand your network. Find mentors. Get tips. Get referrals. Get interviews.

You must be proactive and network like a maniac to land interviews as a Rutgers student.

# How to Network



**Cold Email,  
LinkedIn  
Connections,  
Coffee Chats and  
Phone Calls**



**Employer  
Information  
Sessions,  
Networking and  
Fireside Chats**



**Club Alumni  
Events,  
Networking  
Sessions**



# General Job Requirements

*Successful candidates  
are typically near the  
top of their classes.  
Companies have  
minimum GPA  
requirements!*



## QUANT-FOCUSED MAJOR

Computer Science,  
Statistics, Electrical  
Engineering, Math



## PROBLEM SOLVING

Probability/Statistics,  
Stochastic Calculus



## PROGRAMMING

Computer Science  
Algorithms, Data  
Science, ML

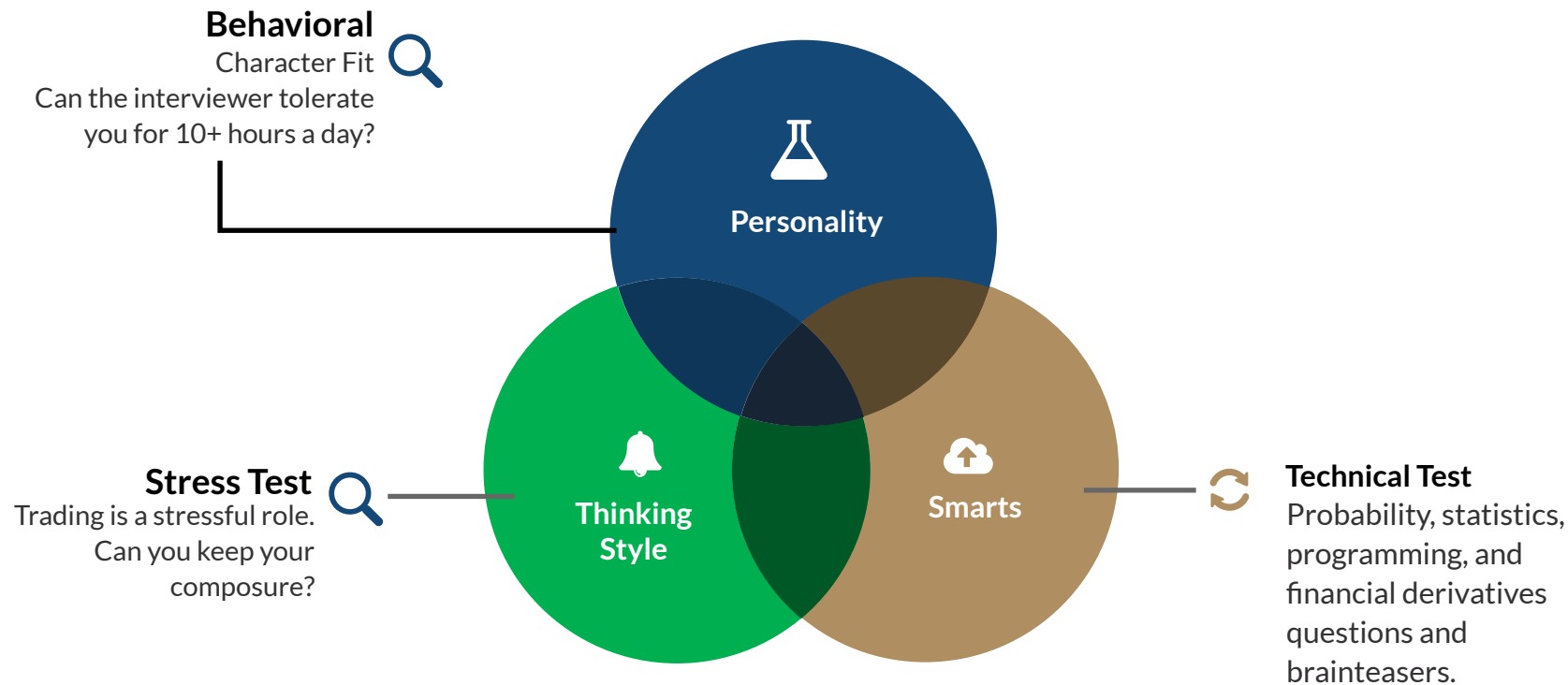


## FINANCE

Great understanding of  
global markets, basic  
finance.

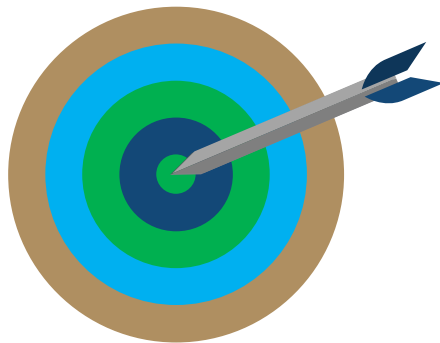
# Anatomy of a Quant Interview

Many Quant roles are hidden inside S&T or Research divisions



# Ace the Behavioral

This is the easiest part



**Emphasize  
Teamwork and  
Collaborative  
Projects**



**Search Online  
for Standard  
Interview  
Questions**

[www.rutgersqfc.com](http://www.rutgersqfc.com)



**Know Your  
Resume and  
Talk About  
Yourself**

# Finance Basics

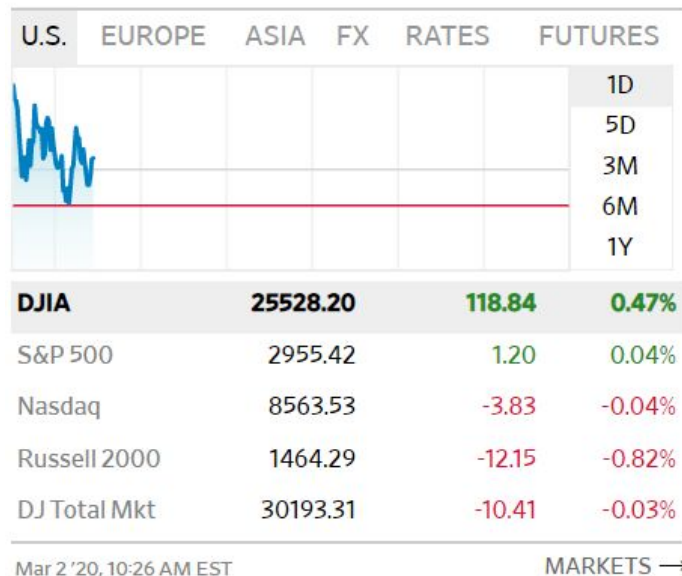
For the non-business majors out there

When reading the WSJ, look out for these five main areas:

1. Stocks, Equities and Shares
2. Bonds, Fixed Income, and Debt
3. Interest Rates and the Fed, Yield Curve
4. Currencies, Foreign Exchange
5. Commodities - Oil and Gold

Understanding this will give you the big picture!

## MARKETS



WSJ Market Indices Ticker

# Know the Markets

## WSJ | MARKETS



### Read the WSJ Markets Section

Rutgers provides students free WSJ access. Use it!



### Keep a Spreadsheet

Know what's going on in the 5 major parts of the markets



### Generate Trading Ideas

As you read, try to spot opportunities for profitable trades, and note down numbers to back them up.



### Start Trading!\*\*

Open a RobinHood or Paper Trading account and see how good your ideas are! This is not necessary, but a definite plus.



# Pro Tip

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When asked how you would invest \$10M, you'd look like a fool if you pitched only one stock.

Show the interviewer you know the markets and have been following them. Have at least 3 well thought out strategies ready.

Have a diversified strategy! Know what it means, how it helps, and how to do that.

# Ace the Technical Portion

Where the wolves eat the sheep.



Probability. Statistics. Programming. Finance.

# Important Classes to Take

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For everybody:

- Calc 1, 2, 3, (4): Multivariable definitely, Diff. Eqs. maybe.
- Math 250: Intro to Linear Algebra
- **Math 477: Probability Theory**
- **CS 111, 112: Data Structures**
- Stat 1 and 2

For those interested in Dev/Quant Dev:

- CS 214: Systems Programming
- **CS 344/512/513: Algorithms**

Other Good Classes:

- Math 485: Financial Mathematics
- Math 478: Stochastic Processes
- ECE 509: Convex Optimization
- CS 440/520/535/536: AI and ML

# Some Good Resources

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## Probability Theory:

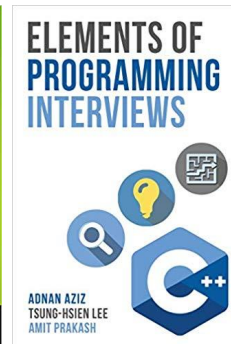
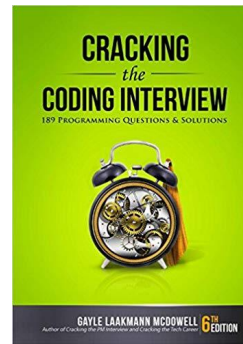
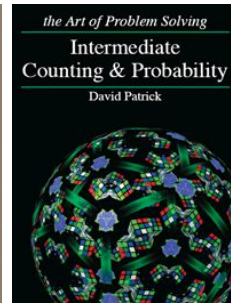
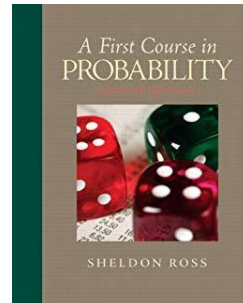
- Ross - *A First Course in Probability*
- AoPS - *Intro/Intm. Counting and Probability*

## Coding Interview Prep:

- McDowell - *Cracking the Coding Interview*
- Aziz et al - *Elements of Programming Interviews*
- InterviewBit, LeetCode, etc.
- [DataCamp \(free for 3 months!\)](#)

## Finance Prep:

- *Vault Guide to Finance Interviews*



# Some More Resources

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## Quant Brain Teasers

- Crack - *Heard on the Street*
- Xiao - *Practical Guide to Quant Interviews*

## Mental Math

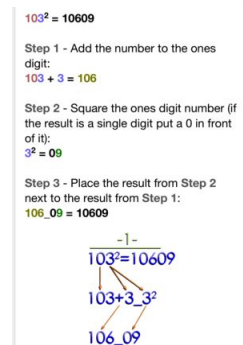
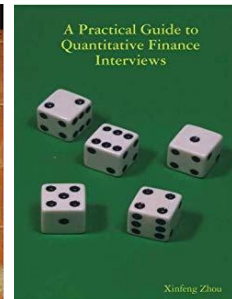
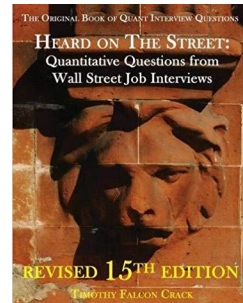
- *Math Tricks* app on Android/iOS

## News

- Morning Brew daily email
- WSJ - The 10 Point daily email

## Sample Questions

- Glassdoor



# An Effective Prep Strategy

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1. Acquire the math/programming prereqs by taking classes or self-studying.
  - a. Take the most rigorous classes you can while maintaining a high GPA.
2. A little practice every day, regardless of how small, will add up.
  - a. Do a problem (or more) a day from those books & online resources
  - b. Read Morning Brew and WSJ every morning
3. Your mental math needs to be sharp.
  - a. Download the Math Tricks app and do 5 one-minute tests a day. Try to get at least 10 points per test.
4. Come to QFC Meetings to learn more and chat with other members and EBoard!

# Sample Brain Teasers

# Brain Teaser 1

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If  $p$  is a prime number greater than 3, show that  $p^2 - 1$  is always divisible by 24.



# Brain Teaser 1

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If  $p$  is a prime number greater than 3, show that  $p^2 - 1$  is always divisible by 24.

- $p^2 - 1 = (p-1)(p+1)$
- $(p-1)$  and  $(p+1)$  are consecutive even numbers
  - One divisible by 2 and the other by 4
- One of three consecutive integers must be divisible by 3
- $2 \cdot 3 \cdot 4 = 24$

# Brain Teaser 2

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You have an array that contains 99 distinct integers from the set  $\{1, 2, 3, \dots, 100\}$ . How would you write a program to figure out which one is missing?

# Brain Teaser 2

---

You have an array that contains 99 distinct integers from the set  $\{1, 2, 3, \dots, 100\}$ . How would you write a program to figure out which one is missing?

**Sum, then subtract 5050**

# Brain Teaser 3

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Six friends go out to lunch. The bill is \$132.67. They decide to add a 20% tip and split the total six ways evenly. What does each person pay?

# Brain Teaser 3

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Six friends go out to lunch. The bill is \$132.67. They decide to add a 20% tip and split the total six ways evenly. What does each person pay?

**\$26.534**

# Brain Teaser 4

1 Point

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What are the decimal equivalents of  $13/16$  and  $9/16$ ?

What is the decimal equivalent of  $7/32$  and  $21/32$ ?

# Brain Teaser 4

1 Point

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What are the decimal equivalents of  $13/16$  and  $9/16$ ?

**0.8125 and 0.5625**

What is the decimal equivalent of  $7/32$  and  $21/32$ ?

**0.21875 and 0.65625**

# Overwhelmed?!?

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Don't worry. We're here to help.

## Recommended Reading:

- Vault Guide to Finance Interviews - good, broad coverage of markets
- PIMCO - "Everything you need to know about Bonds"
- AQR - Macro Wrap-Ups
- Markets Briefing - Wall Street Journal
- The 10 Point - Wall Street Journal
- Vault Guide to Advanced Finance and Quantitative Interviews
- Heard on the Street - Timothy Falcon Crack
- A Practical Guide to Quant Interviews - Xinfeng Zhou