

ALL QUANT JOBS YOU SHOULD KNOW

25 Career Paths in
Quantitative Finance

Quantitative Researcher

Description:

Develops mathematical models to price assets, manage risk, or identify trading opportunities.

Skills Required:

Statistics, probability, programming (Python, C++), machine learning, data analysis.

Degree:

Master's or PhD in mathematics, statistics, physics, computer science, or engineering.

Salary:

\$150,000–\$400,000 per year

Machine Learning Researcher

Description:

Develops advanced machine learning models for trading, forecasting, and risk prediction.

Skills Required:

Deep learning, Python, TensorFlow, statistics, quantitative modeling.

Degree:

Master's or PhD in computer science, applied math, or related field.

Salary:

\$180,000–\$500,000 per year

Data Scientist

Description:

Analyzes large datasets to extract insights for trading, risk, or business decisions.

Skills Required:

Python, SQL, machine learning, data visualization, statistics.

Degree:

Bachelor's or Master's in data science, computer science, or statistics.

Salary:

\$120,000–\$250,000 per year

Quantitative Trader

Description:

Designs and executes trading strategies using quantitative models and real-time data.

Skills Required:

Programming, market microstructure, statistics, optimization, fast decision-making.



Degree:

Bachelor's or Master's in mathematics, finance, or computer science.



Salary:

\$200,000–\$1,000,000+
with bonuses

Algorithmic Trader

Description:

Designs and deploys automated trading algorithms based on quantitative signals.

Skills Required:

Programming, statistics, trading systems, data analysis.

Degree:

Bachelor's or Master's in finance, math, or computer science.

Salary:

\$200,000–\$800,000+ per year with bonuses

High-Frequency Trader

Description:

Develops ultra-fast trading systems to capture short-term market inefficiencies.

Skills Required:

C++, low-latency systems, networking, probability, optimization.

Degree:

Bachelor's or Master's in computer science, electrical engineering, or math.

Salary:

\$300,000–\$1,000,000+
per year with bonuses

Statistical Arbitrage Trader

Description:

Uses statistical models to exploit temporary price differences across securities.

Skills Required:

Time-series analysis, econometrics, programming, risk control.

Degree:

Master's or PhD in statistics, finance, or applied math.

Salary:

\$180,000–\$600,000+ per year

Quantitative Portfolio Manager

Description:

Manages investment portfolios using quantitative models to optimize returns and control risk.

Skills Required:

Portfolio optimization, asset pricing, risk management, statistics, leadership.

Degree:

Master's or PhD in finance, economics, or applied math.

Salary:

\$300,000–\$2,000,000+
with bonuses

Quantitative Strategist

Description:

Develops quantitative strategies and analytics to support trading desks or investment teams.

✂ Skills Required:

Programming, statistics, derivatives modeling, financial theory.



Degree:

Master's in finance, economics, or applied math.



Salary:

\$180,000–\$400,000 per year

Fixed Income Quant

Description:

Builds models for pricing and managing fixed income securities and interest rate products.

✂ Skills Required:

Stochastic calculus, yield curve modeling, derivatives pricing, C++.



Degree:

Master's or PhD in financial engineering, math, or physics.



Salary:

\$160,000–\$400,000 per year

Equity Derivatives Quant

Description:

Models and prices equity derivatives and develops related risk analytics.

Skills Required:

Derivatives pricing, stochastic models, programming, volatility modeling.

Degree:

Master's or PhD in applied math, physics, or financial engineering.

Salary:

\$170,000–\$450,000 per year

Credit Quant

Description:

Develops models for credit derivatives, default risk, and structured credit products.

Skills Required:

Credit risk modeling, probability theory, C++, Python.

Degree:

Master's or PhD in finance, statistics, or applied math.

Salary:

\$160,000–\$400,000 per year

Commodities Quant

Description:

Builds models to price and hedge commodity derivatives and spot products.

Skills Required:

Time-series modeling, stochastic processes, C++, market knowledge.



Degree:

Master's in quantitative finance, physics, or math.



Salary:

\$150,000–\$350,000 per year

FX Quant

Description:

Models and analyzes foreign exchange markets for pricing and trading strategies.

Skills Required:

Econometrics, stochastic calculus, programming, market data analysis.

Degree:

Master's or PhD in economics, finance, or applied math.

Salary:

\$160,000–\$400,000 per year

Quantitative Developer

Description:

Builds and maintains software systems that support trading, risk, and research functions.

Skills Required:

Strong coding (C++, Python, Java), algorithms, systems design, finance basics.

Degree:

Bachelor's or Master's in computer science, software engineering, or related field.

Salary:

\$150,000–\$350,000 per year

Quantitative Risk Developer

Description:

Builds risk management tools and systems to support quant and risk teams.

Skills Required:

C++, Python, SQL, risk analytics, data systems.

Degree:

Bachelor's or Master's in computer science or financial engineering.

Salary:

\$150,000–\$300,000 per year

Quantitative Model Developer

Description:

Designs and implements models for pricing, forecasting, or risk analysis.

Skills Required:

Stochastic calculus, statistics, C++, Python, numerical methods.

Degree:

Master's or PhD in applied math, physics, or quantitative finance.

Salary:

\$160,000–\$400,000 per year

Risk Quant

Description:

Builds models to measure and monitor financial risk across portfolios.

✂ Skills Required:

Statistics, VaR modeling, Monte Carlo simulation, Python, SQL.



Degree:

Master's in finance, statistics, or engineering.



Salary:

\$140,000–\$300,000 per year

Quantitative Risk Manager

Description:

Leads risk teams to design frameworks and oversee model-based risk management.

Skills Required:

Risk metrics, leadership, quantitative modeling, finance regulation.

Degree:

Master's or MBA in finance, statistics, or economics.

Salary:

\$180,000–\$400,000 per year

Market Risk Analyst

Description:

Monitors and reports risk exposures due to market movements.

Skills Required:

Excel, Python, risk metrics, derivatives knowledge, data analysis.



Degree:

Bachelor's or Master's in finance, economics, or math.



Salary:

\$90,000–\$180,000 per year

Credit Risk Analyst

Description:

Evaluates credit exposure and default risk across counterparties or portfolios.

✂ Skills Required:

Credit modeling, financial analysis, statistics, Excel, SQL.

🎓 Degree:

Bachelor's in finance, economics, or accounting.

\$ Salary:

\$80,000–\$160,000 per year

Operational Risk Quant

Description:

Quantifies and monitors risks from processes, systems, and human factors.

✂ Skills Required:

Data analysis, risk frameworks, SQL, statistics.



Degree:

Bachelor's or Master's in finance, statistics, or operations research.



Salary:

\$100,000–\$200,000 per year

Counterparty Risk Analyst

Description:

Assesses and monitors exposure to counterparties in derivative and trading activities.

Skills Required:

Credit exposure modeling, derivatives knowledge, data analysis.

Degree:

Bachelor's in finance, economics, or engineering.

Salary:

\$100,000–\$180,000 per year

Model Risk Analyst

Description:

Reviews and monitors quantitative models to ensure accuracy and compliance.

✂ Skills Required:

Quantitative modeling, validation techniques, Python, documentation.



Degree:

Master's in applied math, finance, or engineering.



Salary:

\$120,000–\$250,000 per year

Quantitative Model Validator

Description:

Tests and validates pricing and risk models for accuracy and compliance.

Skills Required:

Model testing, documentation, programming, statistical analysis.

Degree:

Master's in math, statistics, or financial engineering.

Salary:

\$130,000–\$300,000 per year

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