

## **MSCI Quantitative Model Validation Summer Internship**

Norman, OK

Pay rate: 25.00/hour

### **Position Overview:**

The Model Validation team is responsible for developing and implementing the validation processes and procedures for industry adopted financial instruments, statistics, stress tests and reporting. Our goal is to ensure the 'highest level quality' and the 'fastest time to market' in the industry for financial products. This is an exciting role that lies on the cusp of finance and technology. We provide great learning opportunities to our interns. As a member of this team, the candidate will have direct responsibilities for ensuring that MSCI market-leading analytics continue to provide clients exceptional analytics quality and sophistication. The members of the Model Validation team work on complex issues, where analysis is required to determine the root source of problems and associated factors. The candidate must be detail-oriented and capable to perform multi-task assignments in a timely and independent fashion.

### **Scope of Responsibility /Expectation:**

The candidate will have opportunity to work on innovative financial models, for pricing as well as risk management, utilizing the latest technologies. The candidate will learn about our client needs and validate the quantitative analysis of models to fulfill those needs. The members of our Model Validation team have opportunities to contribute in a broad set of roles including: studying functional, non-functional and analytic specifications, developing test plans and test cases, verifying formulas, and implementing and using automated test tools. The candidate will be exposed on a daily basis to a range of topics that require domain knowledge in the following areas: Pricing and risk models for exotic derivatives, fixed income asset classes, credit derivatives, and securitized products Portfolio level risk analysis VaR methodology Automation framework, built with state of the art technologies, for model validation.

The candidate will also have responsibilities on a daily basis to a range of areas:

- Develop and extend independent validation tools which are used to ensure accuracy for all numbers produced by our analytics engines.
- Analyze and extend the analytics regression tests to ensure the complete and efficient coverage for all analytics engine statistics and asset types.
- Work with the Risk Research and Analytics Development teams to evaluate manual and regression test differences, check requirements, and extend test case coverage.
- Ensure that all daily test processes are completed successfully and resolve problems with the assistance of the research and development teams.

### **Specific Knowledge/Skills:**

- Outstanding advanced mathematical and quantitative skills Strong written and oral proficiency in English.
- Must be willing to work in a global team environment Interest working in an environment that combines finance and technology.
- Strong sense of ownership in testing not just to specification but to real world financial cases - interest and knowledge of the financial markets.

### **Desired Experience/Qualifications:**

- Experienced with VBA and/or Matlab.
- C++/ Python/Perl experience is a plus
- Relevant work experience prior to joining Masters or PhD programs is a plus

- Ongoing MSc or PhD with focus in finance or a degree in mathematics, physics, statistics, or another quantitative field with a strong knowledge of finance

#### **ABOUT MSCI**

*For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research. Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research. MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking.*