

Career Sheet: Catastrophe (CAT) modelling analyst



Marta Caprio (CAT modelling analyst, Axis Capital)

My name is Marta Caprio, I am working as a Catastrophe (CAT) modelling analyst in Axis Capital Holding. Axis is an Insurance and Reinsurance company operating worldwide. My background is a master's degree in physics with a specialisation in Geophysics at the University Federico II in Naples (IT) and I have a PhD in natural science at the department of earth science at the ETH in Zurich (CH).



OVERVIEW OF THE JOB

As CAT modelling analysts, we are required to review third party catastrophe models and provide recommendations to our company to best model the losses encountered due to natural catastrophes. In the team where I work, we are all scientists with a strong quantitative background in natural science (meteorologists, hydro engineers, geophysicists, geologists, etc.). The idea is to use your scientific knowledge to validate a model that, starting from the natural hazard worldwide, assess the financial losses due to all type of natural disasters.



WHAT INSPIRED YOU

Already during my PhD, I was looking at a career in this field as it is more pragmatic than pure research, in my opinion. Of course, I did not manage to reach this role following a straight path, but I had to pass to the data analysis role in a company investigation of female fertility (?!). From this experience, I gained some more technical competencies, and I also trained the ability to fast learn about something you have no idea about and find fast and reliable solutions.



TYPICAL WORKING DAY

My work consists of three main parts. The first and heavier one is to revise the existing models: assess their reliability and quality of each component and compare produced results with historical events. Mostly, I work with Earthquake models worldwide, but the kind of peril does not make differences. For example, in the coming months, I will work on Australian severe thunderstorms. A second part is to support the actual business: in this case, people involved in the pricing or the subscriptions of new contracts could contact me to have my opinion on how to use the third-party model, or in how to modify it in case of very special cases (for example, how to code a gas pipeline in Osaka region in Japan). Last but not least, during the months between November and December, I support the pricing team to model specific contracts to decide if and how to close them.



STUDY & CAREER PATH

As I said, I am a physicist who specialised in Geophysics. During my PhD, I was studying statistical seismology, but after, I got a long break of about two years while I had my second child. After this time, it has not been very easy to fit job market needs, so I was leveraging the computational skills to go back to work. I started as a consultant in a company providing IT solutions. And after that, I started as a data analyst in a startup, developing a bracelet able to identify the fertile period of women... Quite a jump! During all the time, I kept looking at job description from reinsurance companies until I manage to sneak in! And here we are!



KEY SKILLS

I find this job quite interesting as you have to meet several typologies of people, with very different background, from deep scientific to very “white-collars”. So the main skills besides IT knowledge, natural science etc., is to be able to properly communicate with them all and to feel at ease. I would say this is more a social skill than a technical, but it reveals to be very useful!



CAREER PROSPECT

I think the next step in my career would be to become a team leader instead of a team member, but I am not yet sure I want it...



CHALLENGES

The challenge I like the most: the need of learning fast quite complicate things and nevertheless to be able to have a clear and solid vision about them.



YOUR ADVICE TO STUDENTS

It might sound old and repetitive but keep following what you like. Focus on all aspects of things you are interested in and tackle the problems from all possible angles. It does not matter what way you are going to take, but English and IT are behind every corner! Do not wait to be caught: if you are unsure about something or if you feel you did not catch it to the end, make questions until you own the topic. It might help to explain thing to people that are not supposed to know anything about it.



YOUR ADVICE TO TEACHERS AND PARENTS

As a parent of a ten-year-old kid, I feel very involved in this point. To teachers: I would recommend testing if their students understand the general problem rather than the specific one. Kids often learn by heart, but this does not mean that they can generalise a problem. Let them “see” the maths and science in general with experiment, daily life example. Let them discover the solution, and accompany students that are slower or shy or insecure. Do not ever let a kid think that he/she/they are not made for science. Not all are made for Nobel prize, but all of them are able to solve a problem.



LEARN MORE

Marta Caprio’s presentation for PhD: [“The wonderful world of reinsurance and more”](#)

LinkedIn profile: [Marta Caprio, CAT modelling analyst at Axis Capital](#)

[Attribution CC BY](#). This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered. Recommended for maximum dissemination and use of licensed materials.



COORDINATOR



PREMIUM PARTNERS



GENERAL PARTNERS

AIRBUS FOUNDATION

DELL Technologies

DRIVERS FIRST SYSTEMS

ORACLE Academy

Johnson & Johnson

SISSA

TEXAS INSTRUMENTS

UNIVERSITY OF BIRMINGHAM