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What does your company do?

Atkins is a large multi-discipline engineering company. Atkins delivers projects around the globe in a number of sectors including Water and Environment, Aviation, Energy, Transportation and Building Design. You can find more about what we do here: <http://www.atkinsglobal.com/en-GB/group/sectors-and-services>

What is your role?

I'm a Senior Scientist in the Water Management Consultancy Practice. I work in a multi-discipline team to provide GIS, Data and Information Management solutions to the Water Ground and Environment Sector. In particular, my expertise is in flood risk management, water resources and energy, delivering projects for both UK and International clients.

Describe a typical mapping or spatial analysis task conducted in your role?

I use mapping and spatial analysis in a number of ways ranging from thematic mapping, analysis and modelling of large volumes of spatial data to managing the development of GIS tools and systems.

I recently managed the GIS tasks of a project to deliver Flood Risk Management And Disaster Risk Recovery tools for the Southern Africa Development Community. This including managing the development of a Flood Atlas for all the main Trans-Boundary River Basins in Southern Africa including the Limpopo, Zambezi, Okavango and Orange-Senqu. This required the modelling and mapping of 88,000km of river. GIS was used to convert hydraulic model output into a flood map layers identifying the floodplain, flood hazard and population at risk. In addition to the GIS layers, the Atlas was provided as an interactive PDF

Map Atlas that can be used by the countries for planning and emergency proposes.

I am also currently working on a project in Nigeria, where we are supporting and developing the capacity of National, State and Local governments to collate and management Water Supply and Sanitation asset information. This includes training of government staff to collect data in the field and upload to an Information Management System. We are also using the opportunity to train staff to map detailed asset information on water supply schemes, build this information into a GIS which the local engineers can use to help them and develop an information system to be integrated into a Monitoring and Evaluation and Asset Management systems. I am also using GIS to support UK clients and involved in projects to help develop GIS strategy plans for the use of GIS within Lead Local Flood Authorities, develop multi-criteria flood risk prioritisation tools and flood economic appraisals that help provide the business case for further investment.

What career path did you follow into your current job?

After graduating with a 1st class degree in Geography at Liverpool, I went on to study a MSc in GIS at the University of Leeds. After graduation, I did GIS temping work at a local district council for a few months before I joined Atkins under their graduate scheme. I have now been with Atkins for the last 11 years.

What advice would you give a student wishing to start a Geographic Data Science career in your industry?

Make sure you develop a wide range of GIS skills from good data management, modelling and analysis. As we move into the digital world, having skills in at least one coding language such as Python is essential, even if you have no plans to be a developer the ability to automate and develop models and workflows will be an essential skill in a future GIS career.

It may also be worth considering whether you are interested in a career delivering GIS skills and services across multiple-sectors or if you would like to specialise and use GIS together to support a wider discipline. If you are interested in specialising, you might want to consider what other modules or work experience you need to support your aspirations

Finally, choose something you enjoy doing, you will have a long career ahead of you, so best to try and choose something you have a genuine passion for.

Where do you see the Geographic Data Science industry going in the next 10 years?

Over the last 10 years, GIS has followed the path of many technology industries and embraced the internet, module and open source / data. In the next 10 years I

can see GIS continuing that trend. Sensors and communication devices are appearing everywhere and volumes of data are ever increasing. GIS hold the key to unravelling that information and providing context and insight to how this information can be used to understand and improve the world we live in.