Meet Ajay Limaye

What do you do?
I work as a visualisation programmer at the National Computational Infrastructure, situated in the Australian National University. I help researchers to visualise their scientific data.

How did you get into that job?

During my school and college years I was more interested in biology subjects and actually wanted to do medicine. Unfortunately (or fortunately) I was not able to get into the medical program, because I didn't meet the requirements. Fortunately, I was able to get into the computer science program and did a Bachelor's degree in Computer Science. I got hooked on programming and graphics and knew this was what I wanted to do. I have always been a visual person, attracted towards visual arts, so with my programming skills, gravitating towards scientific visualisation was natural. This was followed by a Masters in Mathematics. After that, I did my Ph.D in High Performance Computing. My Ph.D was mainly about the development of parallel code for quantum chemical calculations. I was able to incorporate visualisation as a part of my thesis by developing visualisation software to visualise chemical structure and properties.

My Ph.D in the field of High Performance Computing, from India, opened up the doors for me in the field of scientific computing. Right after my PH.D I joined as a Computational Chemist at ANU Supercomputer Facility. I have always been interested in computer graphics and visualisation. I had written a molecular visualisation software during my Ph.D days. Luckily for me within a short time after joining ANU, I was able to switch to scientific visualisation.

I moved here way back in 1997. ANU Supercomputer Facility (which morphed into National Computational Infrastructure) turned out to be the right place for me as I was able to interact with researchers from a variety of scientific disciplines. Never thought of leaving the place.

What do you love about your job?
3D visualisation of complex 3D data sets is now essential to the analysis of the high-resolution data sets that underpin modern research including, but not limited to, medicine, materials, biological, earth and physical sciences. It is also central to effective communication through project teams, stakeholders and wider audiences dealing with global issues at all scales. My work in visualisation has allowed me to work and collaborate with researchers from a wide variety of disciplines.

How does your job help people/the community/the world?
I have developed an open-source visualisation software named *Drishti* (this word in Sanskrit, stands for cognition/insight/vision depending on context). *Drishti* has been employed in a wide variety of research fields. These include, but are not limited to, material science, paleontology, medical research, plant science, forestry, archaeology, anthropology, mining, geology, marine sciences, bioengineering, and nano research – essentially all those where volumetric data is generated. Apart from research activities, *Drishti* has been employed to augment teaching as well as in public engagement activities in documentaries and museums.

What are two things you're not good at?

Languages – Computer languages are fine. Learning a new human language, apart from those that I have already learned during my school years, is a bit of an uphill task.

Poetry – I get the gist, but as far as touching the heart goes, I'm still waiting.

What are two things you are good at?
Employing and adapting stuff from disparate areas to suit the current situation. This is one of the reasons, I enjoy working in visualisation. This is an applied area that is needed by almost everyone. I can employ things that were learnt from a different field in a new way.

I have been involved in sharing science in our small community (of Marathi speaking people here in Canberra). I have run a local radio show delving into a variety of science-related topics. Recently I have started an initiative to increase collective awareness amongst community members regarding a variety of subjects. I host a talk show every couple of months at my house by experts in different fields for the benefit of the community. The subject matter is not restricted to science and technology.

What makes you happy (outside of work)?
I enjoy singing, outdoor sports, bushwalking, and camping.

Where do you want your career to take you?
Luckily, I am perfectly placed where I am – working and collaborating with researchers from a wide variety of disciplines.