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*(The Answers are based on the interview with **Dr. Palden Lama**)*

How do you start a research project?

First of all, you have to select the broad area that you are interested in. For my case, it is Cloud Computing. In this area there are many problems that people are dealing with. For example: performance management, power management, resource management. There are many aspects of this research area. So, basically i search which aspect I am interested in. Also, you have to know what other people are doing, what is the state of the art, what latest research are going on. If you don't do that you may be reinventing the wheel. For this, I look into the top conference papers from IEEE and ACM. After reading lots of articles, you will find what are the problems that the researchers are dealing with. There are two types of research you can do. First type is to find a new problem, which might be more difficult and challenging as well. The second type is to find a new and improved solution to a well known problem. The second type is usually comparatively easier to start with. Once you have identified the problem, you can do either case studies or try to implement part of the solutions from other people and do a observation/verification and find the open problems where you can digging deep.

What specific tools do you use (e.g., library resources, computer software, forms of measurement, statistics)?

There are lots of tools that i have used. For writing, I use latex. For drawing diagrams, I use gnuplot and xfig. I have used Matlab as it has lots of built in functions. I have used python programming language significantly as it is very fast for prototyping. Apart from these, I have used several virtualization softwares like xen hypervisor, vmware etc. These tools are quite sufficient for doing research in cloud computing.

How did you gain your expertise with the various tools you use?

I did not have any formal training on the above mentioned tools. Basically i have to do a lot of self study, reading the manuals from online and practise to master those tools.

What are some important experiences you suggest for a novice researcher?

My advice for a novice researcher would be to read a lots of good papers. Both the classic ones having a lot of citation and the new ones that are published in the top journal. This way you will know what is going on. Also, try to have a critical mind to analyze their claims. Try to answer if the proposed solution can be done in a better way or not. At the sametime, appreciation of a good research is also important. One should read the ACM and IEEE Magazine to have a larger picture and good papers to have a more detail and narrower vision to a particular problem.

If I wanted to learn how to become a competent researcher, what specific tools would you suggest I work with?

Read recent publications, Go to the top conferences and Meet with other people who are working in the same area. Once you find an open problem and come to a tentative way of solution, try to implement your solution in a small scale using rapid prototyping tools or language (ex:python). Verify your solution, Collect data and analyze them against statistical tools to establish your claim.

What are the hindrances that you've faced during your journey to become a PhD Fellow?

At my early days, I found reading the research papers to be very difficult. But you have to be consistent to get rid of this problem. Also, sometimes i was too much deeply involved with a single problem and was unable to think about something else. So, context switching was not easy. Additionally, Time management is really important to survive. Nevertheless, keeping yourself is equally important. So, you need to find a balance between your research activities and your life. You need to eat well and do regular physical activities to relieve the stress.

what are the prerequisite for a new comer interested in research in your area?

A new comer who is interested to do research in Cloud computing must be sound in computer programming, must have knowledge with Virtualization. Must have good understanding of the areas like operating systems, computer architecture and distributed systems. He/She shall read a lots of paper to know more about ongoing research in Cloud computing.