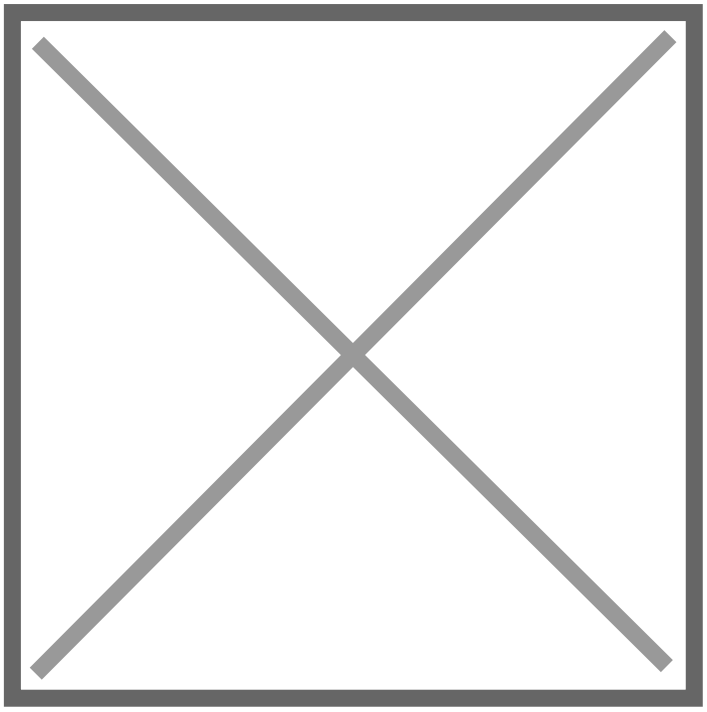
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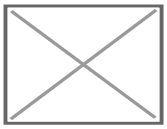
Premium Awaits Bio IT Experts

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Dr Praveen Kini

Premium Awaits Bio IT Experts

Sky is the limit for professionals who combine the best of skills in computing and biology, emphasized Dr Praveen Kini, Head, Special Interest Group on Bio IT, Association of Biotechnology-Led Enterprises (ABLE). Kini is also the Chief Scientific Officer of CytoGenomics.

Health and Bio IT are the two specialized segments of the IT industry that needs a very specific domain skill sets in addition to being an IT professional. These skills can be in the area of basic biology, medicine, medicinal chemistry and mathematics or computer science. The industry is looking out for persons with cross-domain skills and is willing to pay the premium prices for these segments.

The question is do we need engineers with biology knowledge or biologists with engineering skills. The answer: we require both types of skills and we are willing to pay a premium for that. The next question is what kind of training both of them need? We look for a good record of skills from their primary domain (biology, medicine. engineering or basic sciences) and it should be supplemented with cross-domain skills applicable in their primary domain. For example a radiographer is a person who handles X-rays and CT scans for hospitals if he is able to understand and use specialized radiological software that is a valuable skill, the other example would be a lab scientist who can use the various software tools in the lab environment effectively.

These examples still do not address the concerns of the beginner and what should they be doing to attract potential employer's attention. The attitude of learning-to learn for lifetime, is a skill that needs to be developed and maintained.

Science is always growing and new branches of science keep appearing. In every decade there is a complete overhauling of knowledge repository and knowledge aging happens. In order to future proof, the candidates should develop the ability to learn new skills and knowledge in an accelerated fashion. This is akin to what happens in the movie Matrix, where new knowledge comes in a module, which you stick into your brain. In this case it means continuous training and knowledge gathering, identifying sources of data, use methodologies to quickly improve your basic knowledge. Resumes that will bring out that skill are picked up.

Credentialing of statutory qualifications is important in this segment. Since in areas such as medicine most of the qualifications are statutory and if the work is being outsourced from the US, it becomes necessary to ensure the skills are credentialed by another US entity. Credentialed skills are at a premium, it could as simple as coding for medical records to as complex as US board certified physician. Till the supplies meet the demand there can be a significant premium to these skills.

There are going to two kinds of jobs in this sector:

1. Production 2. Design

Production

The current known models in this segment are
a. Curatorial services - This involves gathering information based on the person's domain knowledge in a specific subject. It may involve searching public or private databases. Arranging the data in an intelligent manner for easy retrieval and subsequent analysis.
b. Production in health care can be analysis of patient records and images for either clinical trials, regular diagnostics or for research activities. These can be very demanding in terms of turn around time and regulations.
c. Claims processing and other related activities. Here the knowledge of the health care administrative functions is vital.
d. E-Submissions for drug trials and other related activities are emerging production areas.

Design

1. In Silico Drug design
2. Software development
3. Bio-Medical engineering designing, MEMS, nanotechnology, etc.

As the industry matures many of these emerging skill sets will get institutionalized and training centers will become available. As of now many of these skills have be obtained by self training as there are no formal ways to get them in the current scenario. Early movers are likely to get absorbed into the industry faster and may get a fast track to a better career. As in any science based industry there will always be areas of ignorance that smart people can exploit and move ahead. What is however more important is that there should be openness to imbibe new knowledge and skills. This should be a process and it should be continuously updated and improved upon.

The future training will focus increasingly on Matrix like training modules which allow one to get the required knowledge and skill base in the most time and cost effective manner. Education focusing on these skills is bound to succeed in getting better personnel for the knowledge-based industry.