Report about my activities

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My name is Ahmed Gamal Elmahy. I am a sixth year student at the Faculty of Medicine Alexandria University. I am interested in the Internal Medicine and clinical problem solving. My dream is to understand and develop the grammar of clinical problem solving and translate it into the computer language;hence, letting computers diagnose and treat. I have passed 17 Massive Open Online Courses (MOOCS) from top universities on research methodology, statistics and computer science. Now, I am learning "Bayesian Statistics", "Artificial Neural Networks" and "Qualitative Data Analysis". Although these topics appear to be beyond the medical field, they are very beneficial to achieve my goals;For example, Bayesian statistics helps me understand the prior and posterior probabilities of diseases and diagnostic tests. Artificial neural networks have many applications in medicine especially in disease pattern recognition. The philosophy behind qualitative data analysis helps me understand and develop frameworks about patients because usually data received from them are in a qualitative form.

My passion for science leads me to do these things: Last year, under the supervision of Dr.Heba ElWeshahi (Community Medicine Department), I started to study how to use the Internet in exploring the risky sexual behaviors among Egyptian gays. Sampling sexual minorities has been problematic in Egypt; however, thanks to the Internet I was able to reach them and write my paper which is pending approval. I also joined the cancer research team under the supervision of Dr.Noha Awad (HIPH). My main goals from this training are to improve my lab and research skills and to work with a new type of data i.e. the "Genomic Data".

I also trained with the biostatistician Dr.Shehata Farag (HIPH) on data entry and statistical analysis. Being able to program makes me different even in biostatistics. Most researchers at my college use commercial software and some use pirated software, but I use and advertise open source and free programming languages. The R statistical language is very "up-to-date" and many publications in highly ranked journals use it. I was also able to work with many packages in R e.g. ggplot2 package which is used to make elegant publication

quality graphs.

I learnt at least three programming languages Python, R and Prolog which are used for functional, statistical and logical programming, respectively. I also trained on using SQL for database management.Now, I am able to use many computer programs like Office, SPSS, Latex and many citation software. Even doing literature review in my field is very different because I am using faceted search and regex (a language for searching within text). I do search on Pubmed, Web of Science, Embase and Google Scholar regularly.

Recently, I have designed a program to improve the way of distribution of medical students among the elective courses in our medical school. The program saves time and effort by automatically distributing students among their electives. Moreover, it provides a graph about courses that students strongly want and those they don't want. In both cases, these courses need to be investigated and improved.