Discuss the importance of a postgraduate degree in the Computer Science field

The Computer Science pioneer Edsger W. Dijkstra almost chose not to pursue further research in programming. Dijkstra worried it might not be a respectable field, asking "Where was the sound body of knowledge that could support it as an intellectually respectable discipline" (Dijkstra, 1972: 59). Sixty-five years later what is the importance of a postgraduate Computer Science qualification today?

Having worked as a software engineer in the medical design field for 3 years I have just enrolled on The University of Essex Online PG Cert in Computer Science.

The medical design field develops products and services to improve users' health, ranging from surgery equipment to mobile lifestyle apps. The field is heavily regulated (DeMarco, 2011) and the design processes employed must conform to high standards to help ensure safety for end-users.

The University of Essex Online PG Cert in Computer Science teaches students the fundamental theories underpinning Computer Science whilst developing students' abilities to write effective code and algorithms. Students create an e-Portfolio to display their progress as computer scientists learning to produce secure and ethical software. Completion of the course leads to a recognized academic qualification and allows for membership of the British Computer Society.

Software development is an integral part of many design solutions in the medical field. This postgraduate qualification develops practical skills and explores the wider ethical responsibilities that are extremely relevant for many industries but especially the medical industry.

Reflecting on my experience I have found that developers are constantly required to use new technologies. This is because developers must use the technology best suited for the task. This PG Cert does not, and cannot, teach all of the technologies I expect to use in the future. On the other hand, this course has a focus on the fundamental theories underpinning computer science. These theories are applicable to all technologies. Therefore, this valuable understanding will help graduates apply their abilities across many projects for example: embedded, cloud, or mobile applications.

Students completing this course will leave with an appreciation of the ethical and security responsibilities that come with software development. As such these graduates are well placed to help promote these values in their workplaces, whether in the medical field or other industries. This should have a positive impact on the field.

As well as being important to the medical design field, computer science is profoundly useful in many other fields. Restuccia et al. (2017: 20) argue "Computer Science skills are becoming increasingly important in a wide range of jobs". Employers are now looking for computer science skills across the job market from designers and engineers to scientists. This conversion course offers an effective way for a student to learn skills that will help them succeed in whatever field they want to move into.

Computer science skills have become a key differentiator for job applicants and "can have a significant impact on a student's earning potential over his or her lifetime" (Restuccia et al., 2017: 4). A PG Cert in Computer Science can therefore help strengthen the student's CV and increase the student's career opportunities, helping people get the jobs they want at higher salaries.

As well as benefiting the graduates who complete this course there may be wider benefits to society as a whole. Students completing this course will help achieve the British government policy of creating a high skill economy by increasing the supply of highly skilled workers (Henseke et al., 2017).

I have also noticed that this course is being undertaken by people from a wide range of countries around the world. Mellors-Bourne et al. (2013) state that International students studying in the UK form a positive understanding of the UK's culture and values, it may be that this online course will also help form a positive perception of the UK. However, it is worth noting that the paper was specifically describing students living in the UK so the effect may not be as profound.

Modern society has benefited from, and been massively changed by, the solutions Computer Science enables (Sutton, 2013). We now live in a world where people can wear heartrate and blood sugar level monitors. These life-changing innovations have been made possible by the application of strong computer science foundations.

I am expecting to develop my research and academic writing skills. On a personal note, I am looking forward to studying and collaborating alongside students around the world who have different skill sets and backgrounds as I am sure we can all learn from each other.

In conclusion, this course will benefit me by providing a strong understanding of the theories underpinning Computer Science. This postgraduate course helps students improve their career prospects by displaying a highly sought-after skill. Computer

Science has shaped the society we live in and its continued application will continue to shape our future.

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