

The importance of a postgraduate degree in the Computer Science field

Introduction

The following essay will explore the importance of pursuing a postgraduate degree in the field of Computer Science, drawing on personal experiences, observations, and expectations as an MSc Computer Science student at the University of Essex.

Correspondingly, the paper will investigate the societal ramifications of a postgraduate degree in a broader sense.

Despite being one of the youngest scientific disciplines to emerge (Schneider & Gersting, 2013), Computer Science has rapidly gained influence within a wide range of fields, enabling astounding achievements and laying the foundation for subdisciplines such as computational science, graphics and visualisation, human-computer interaction, databases, and information systems, amongst many other (Encyclopædia Britannica, 2023). These breakthroughs have had a major effect on modern society, with Computer Science playing a significant role in how people live, work, and communicate with one another.

Professional Benefits

The accelerating rate at which technology progresses has driven a growing demand for skilled professionals who are able to make use of technology in order to create and capture value (Brynjolfsson & McAfee, 2014). Recent advances in technology have triggered skill-biased technical changes within a multitude of industries, reducing the demand for work that can be effectively accomplished through computers, robots or other digital technologies, and consequently increasing the

need for specialists with advanced expertise and the ability to solve complex problems (Brynjolfsson & McAfee, 2014). Thus, a postgraduate degree in Computer Science provides not only the foundational concepts required to excel in the rapidly growing technology industry (Statista, 2023) but also transferrable skills such as complex problem-solving, analytical and critical thinking, which further lead to increased employability prospects (Carnevale et al., 2016).

Personal Experience

To delve deeper into the matter from a personal standpoint, as a product design professional currently pursuing a career in the software development industry, interlocking with various facets of the Computer Science field is a constant occurrence. The design industry is by nature a progressive and competitive field (CareerFoundry, 2021), which relies heavily on Computer Science as the enabler for creating and manipulating digital designs. Understanding the underpinning computing principles empowers designers to acknowledge technical implications, deliver flexible and intuitive products, and unlock hidden parts of the creative process (UXPin, 2023).

Mere skimming information and relying on a superficial understanding are often insufficient in order to grasp the breadth and complexity of this vast subject. By pursuing a postgraduate degree in the Computer Science field, students develop broad technical skills and can further specialise in their desired areas (University of Essex Online, 2023), one example being acquiring the theoretical foundation needed for working with software development or human-computer interaction, two pivotal fields that complement product design.

Societal Impact

In addition to the personal and professional related benefits, graduates of a postgraduate degree programme in Computer Science have the opportunity to work towards a higher purpose, significantly impacting the field and society at large. According to Domingos (2015), modern society is undergoing a transformation as learning algorithms revolutionise fields such as science, technology, business, politics, and war. Graduates with advanced expertise can contribute to further research and development, pursuing technological innovations and knowledge dissemination. Apart from the aforementioned fields, graduates can also become involved in solving current pressing societal problems in areas such as climate change and healthcare or fighting the exponential growth of cyber-attacks (Jang-Jaccard & Nepal, 2014). Skills within data analysis, artificial intelligence or other subdisciplines covered through studying Computer Science, are instrumental in tackling complex challenges and guiding the progress towards serving the greater good. Having a similar level of understanding as other field experts enables powerful teamwork and, as Isaacson (2014) portrays, digital revolution is reached through like-minded people working together to exchange ideas and expand on one another's work.

Therefore, upon completing the MSc Degree in Computer Science, there is a personal expectation to have gained the necessary theoretical foundation and key concepts that enable career advancement and augment the capacity of solving real-life challenges. This will ultimately generate a positive impact in the field of Computer Science and society altogether.

Conclusion

As all the above points have demonstrated, pursuing a postgraduate degree in the Computer Science field is of paramount importance, with repercussions spanning beyond the sheer individual. The rapid advancement of technology and the rising demand for a proficient workforce are two factors that the essay underscores as reasons why earning a postgraduate degree in Computer Science is a key accomplishment. Furthermore, advanced study in the realm of Computer Science is a worthwhile endeavour for those seeking to enhance their knowledge and expertise, while making a substantial impact on the field and society at large. As technology continues to permeate every aspect of our lives, it is essential to have experts who can navigate the complexities of the digital world. Postgraduate education can provide individuals with the tools and knowledge necessary to pave the way for future technological advancements.

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