**Title:**

An Introduction to Blockchain Development

**Abstract:**

In today's interconnected world, there are few topics in computer science as far reaching and rapidly unfolding as the use of blockchain. However, as of recently, the public perception of this technology has been less than positive. From the ridiculousness of NFT digital art marketplaces to the detrimental effects of mining bitcoin, discussing the topic of blockchain has almost become taboo. With my experience in creating an undergraduate blockchain development curriculum at my university, as well as assisting a Fortune 500 company in researching blockchain integration, I will outline the value of using blockchain technology in modern software development. Through this discussion, one will gain an understanding of the importance of blockchain as a tool in every future developer's toolbox.

I will begin by briefly providing a high-level overview of what blockchains are, how they work, and the advantages they provide to developers. I will then narrow into how developers can write smart contracts, which are code files that are capable of being deployed to and executed on blockchains. To demonstrate smart contracts, I will examine one that I created and deployed on a local instance of the Ethereum blockchain. Next, I will discuss the opportunities that blockchain opens up for entrepreneurially minded engineers, and how they can take advantage of these opportunities. I will end by reviewing the long-term trajectory of blockchain development, as well as its current use cases and applications, both in private and public sector. I will discuss both the effectiveness of ideas that have already been created and also examine ideas that are yet to be implemented. Going forward, the need for developers to traverse the unexplored idea space surrounding blockchain is crucial to solving the world's future uncharted problems.