

HIP Research Summary Paper Example

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HIP Research Summary Paper

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Provide project title.

Highly Scalable Tools for HPC Modeling and Simulation

INTRODUCTION/
ABSTRACT

I am an engineering student at the University of California, Santa Barbara. As part of my curriculum, I studied computationally efficient methods to speed up the processing times for codes that model XYZ systems. This practical coursework assisted my research at the High Performance Computing Laboratory in Lorton, VA. Under the guidance of Dr. Justin Tyme and his team of researchers, I assisted the “Highly Scalable Tools for HPC Modeling and Simulation” project...

GOALS AND
PURPOSE OF
PROJECT

Dr. Justin Tyme developed a sophisticated domain code to apply to simulations of abcd devices in an effort to predict the propagation characteristics of radiation in ABC systems. This highly scalable code demonstrated flexibility and computational efficiency as we experimented and tested its performance on the CLU1 and CLU2 clusters. We observed the code’s ability to provide accurate results for ABC and XYZ systems. As a result, the team observed the code had many uses, including opportunities to enhance advanced xyz technologies and improve design of integrated efg systems. The DoD can benefit from this research: improving high-speed communications, enhancing computing resources, and increasing the quick integration of xyz platforms...

IMPACT OF
SUMMER
RESEARCH
EXPERIENCE

The HIP internship provided me with an opportunity to gain practical knowledge and experience using sophisticated analysis tools and computational methods. Under the guidance of Dr. Justin Tyme and his research team, I gained further knowledge of computational research methods, practical applications for codes in a DoD environment, and practical application of analysis tools in a state-of-the-art testing facility. As a mentor, Dr. Justin Tyme challenged me to use mathematics and advanced computational methods to unravel the code’s anomalies and few, erroneous results. I gained immense appreciation for the time and effort, Dr. Justin Tyme and his colleagues spend on their calculations and computational methodology to ensure accuracy.

IMPACT OF
SUMMER
RESEARCH
EXPERIENCE
(CONTINUED)

As a result of the HIP internship, I narrowed my research career goals and want to pursue a career in the DoD, preferably studying the computational advancements of xyz domain codes and their analysis in jkl environments. Because of the HIP internship, I recognize the practical importance of this research as it assists the advancement of modern tools for the US Military and DoD. Dr. Justin Tyme's guidance assisted me with this decision because of his vast knowledge of abcdefg technology...