

# Trig and Calculus Learning from a Computer Scientist's Perspective

Derek R Neilson

September 19, 2024

## **Abstract**

In this paper, I explore the process of learning trigonometry and calculus from the perspective of a computer scientist. I begin with an overview of my background in computer science, highlighting how it has shaped my approach to mathematical concepts. Following this, I delve into my experiences with mathematical learning, discussing the challenges and the insights gained. Additionally, I present key questions I had before and after learning these mathematical fields, and reflect on their practical applications within computer science.

# **1 Introduction**

## **1.1 Background**

I am a computer scientist in training, with a background in software engineering and computer programming, focusing on data structures and algorithms. My interest in mathematics has always been present, but it was not until I began studying computer science that I realized the depth of my passion for the subject. I have always been fascinated by the intersection of mathematics and computer science, and I am constantly seeking ways to deepen my understanding of both fields. I believe that a strong foundation in mathematics is essential for any computer scientist, and I am committed to developing my mathematical skills to enhance my work in computer science.

## **1.2 Experiences with Mathematical Learning**

My experiences with mathematical learning have been mostly positive, but I have encountered some challenges along the way. I have always been a strong student in mathematics, and I have consistently performed well in my math courses. I cared more about the enjoyment of solving problems than the grades. However, I have always struggled with mental math and have had to work hard to improve my skills in this area. I have also found that I learn best when I can see the practical applications of the mathematical concepts I am studying. I am a very hands-on learner, and I benefit greatly from working on real-world problems that require me to apply the mathematical concepts I have learned.

I know of trigonometry but have not studied it in depth. Furthermore, I lack a deep understanding of the trigonometric functions and their properties, and I have not yet explored the applications of trigonometry in computer science. The highest level of math I have completed is algebra 2, and I have not yet taken a calculus course. I am eager to learn more about trigonometry and calculus and to deepen my understanding of these mathematical fields.