

**NUMERICAL CALCULATION OF COMPLEX ROOT  
FUNCTIONS**

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**Thesis submitted in fulfilment  
of the requirement for the degree of  
Bachelor of Science (Hons.)  
Mathematical Modelling and Analytics**

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**July 2024**

## ABSTRACT

In the field of mathematics, science and engineering, determining the root of a function in the form of complex root is an issue that is often encountered. Complex root could be determined theoretically and numerically. The aim of this project is to determine the best numerical method in computing the complex roots. Three numerical methods will be studied which are: Complex Newton, Complex Secant, and Complex Halley's. The tested function consists of different type of polynomial functions with complex roots. The results are analysed based on the number of iterations, CPU time and modulus of complex root. Numerical results demonstrates that, in terms of number of iterations, the best method is Complex Halley's. While in terms of CPU times, the best method is Complex Newton method.

## **ACKNOWLEDGEMENT**

In the name of Allah, The Most Gracious, The Most Merciful. Alhamdulillah, all praises to Allah for the opportunity and simplifying this path to complete this project. First and foremost, I would like to extend my deepest gratitude to my supervisor Dr. Haji Mohd. Rivaie Bin Mohd Ali for his unwavering support, guidance and insightful feedback throughout the course of this project. His expertise in the field, level of dedication and patience have been very instrumental in the successful completion of this project. I am forever grateful for the time and effort he invested in helping me achieve this. My heartfelt appreciation goes to my family and friends for their support and motivation for throughout the years. At last, but not least, I am thankful to my parents for their prayers and encouragement. Their constant faith, understanding and love have been my strength, providing me with the resilience to overcome challenges and the motivation strive in my times of stress. They constantly emphasized the importance of my own wellbeing before moving forward with whatever lies ahead. Sincere thanks.

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