



PROJECT REPORT  
FINDING POLYNOMIAL EQUATIONS ROOT  
USING GENETIC ALGORITHM

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APPROVAL AND RATIFICATION PAGE  
PROJECT REPORT  
**Finding Polynomial Equation Root Using Genetic Algorithm**

This project report has been approved and ratified by the Dean of Faculty of Computer Science and Supervisor on July , 18<sup>th</sup> 2014

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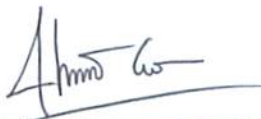
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**STATEMENT OF ORIGINALITY**

I, the undersigned :

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Certify that this project was made by myself and not copy or plagiarize from other people, except that in writing expressed to other article. If it is proven that this project was plagiarize or copy the other, I am ready accept a sanction.

Semarang, July 18<sup>th</sup> 2014



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## ABSTRACT

*This project will find root of polynomial equation. Polynomial equation is an expression consisting of variables and coefficients, that involves only the operation of mathematics. For polynomial order two, we have a formula that can search real root of the equation but for order 3 or more we don't have a formula we just have methods for find a root with low accuracy.*

*This project used genetic algorithm as main algorithm. Genetic algorithm is one of optimization algorithm that are inspired by Darwin's theory about evolution. General structure of genetic algorithm is initial population, evaluation, selection, crossover, mutation, termination. In this project genetic algorithm will work as main algorithm to find root of polynomial equation with high-level accuracy. User can input any polynomial equation and the precision value. This project will show information and solution to user.*

*This project implemented genetic algorithm and used array and linked list as data structure. This project was made using Java programming language. This project will give solution to polynomial equation in finding the root of polynomial equation.*

**Keyword : java programming, genetic algorithm, numeric, root, polynomial.**

## FOREWORD

My biggest thanks to my Lord Jesus Christ, through His love and wisdom I can finish my thesis entitled Finding Polynomial Equations Root Using Genetic Algorithm in the period of time. Also in this chance, I would like to give my thanks to :

- My Jesus christ and my bestfriend,Holy spirit who give me faith and joy also wisdom to finish this project. My God always encourage me when I face problem that make me down.
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- Every person who either directly or indirectly had already supported me ,given me a lot of motivation.

I hope this project can be used for everyone that have a problem to solve the polynomial equation. All glory to our Lord and His Kingdom Jesus Christ.

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