**DEVELOPMENT OF GENETIC-BASED CULTURAL ALGORITHM FOR SCHOOL TIME TABLE SCHEDULLING PROBLEM**

**BY**

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**BEING A PROJECT REPORT SUBMITTED**

**TO**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**FACULTY OF ENGINEERING AND TECHNOLOGY,**

**LADOKE AKINTOLA UNIVERSITY OF TECHNOLOGY, OGBOMOSO, OYO STATE, NIGERIA.**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS**

**FOR THE AWARD OF BARCHELOR OF TECHNOLOGY (B.TECH) DEGREE IN COMPUTER SCIENCE.**

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**CERTIFICATION**

This is to certify that this project work titled “DEVELOPMENT OF GENETIC-BASED CULTURAL ALGORITHM FOR SCHOOL TIME TABLE SCHEDULLING PROBLEM” was done by **OYENEYE, BOLAJI IBRAHIM** with the matriculation number **111571** was submitted to the Department of Computer Science and Engineering, Faculty of Engineering and Technology, Ladoke Akintola University of Technology, Ogbomoso, Oyo state.

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**DR. ISMAILA W.O DATE**

**Supervisor**

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**DR (MRS) A.B. ADETUNJI DATE**

**Head of Department**

# DEDICATION

This report is dedicated to Almighty God for his mercies and protection. To my loving parents Alhaji and Alhaja OYENEYE for their love, care and above all their support in every wise which has kept me going till this present stage of say life, and to our lecturers who gave me the opportunity of developing myself with a project like this, I say am really grateful.

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**ABSTRACT**

Course timetabling is a very important process in higher institution of learning. The contruction of course timetbling system is a problematic task for universities, sometimes it is done manually or with little from the administrative system. The main challenge is assigning courses to time slots and venues over affixed period of time while satisfying the set of contraints on both students and lecturers. A large number of heuristic algorithm have been developed over the years, which have been developed specially to address one particular instance of a problem or a small subset instance related to a given real life problem. Among the modern heuristics methods in simulated annealing and tabu search which represents powerful combinatorial optimization methods with complementary strengths and weakness.

A study of Cultural Algorithm was undertaken collecting data(courses) from department of computer science and engineering, Ladoke Akintola University of Technology, ogbomoso Nigeria for 300L, 400L and 500L, to evaluate the performance of the algorithm Cultural Algorithm in respect to course time tabling problem considering whether all contraints (soft and hard) are met. We have been able to solve an existing problem and show that the automated system performs better and faster than the manually generated solution.

The results generated indicate a very high consumption of computing resources, a high computation time with a reasonably high optimality. Thus a genetic-based cultural algorithm provides us with an optimal solution, though solution is not perfect but solution is so close to perfection and it is not prone to error, easy to use, saves time, and easy to understand. It is recommended that further test and analysis should be performed in order to ascertain the probabilistic efficiency of Cultural Algorithm. This would help in evaluating the performance so as to be able to use the algorithm for further implementation to other various problems and to present significant results to the problems.