

BIG DATA EMPOWERS
TO CREATE A NEW
ERA

基于英语AB级考试的智能 组卷算法研究

汇报人：

2024-01-25

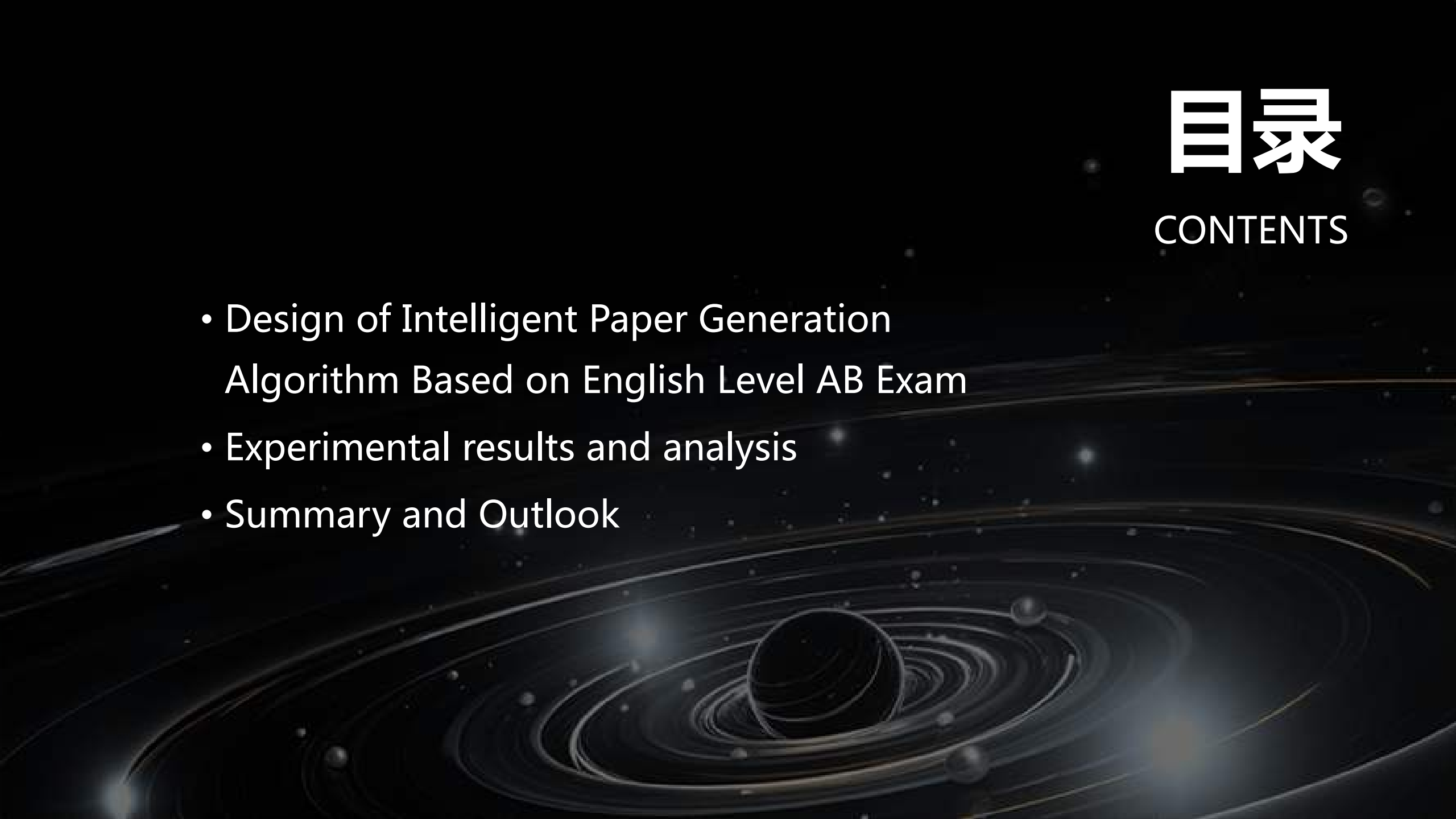
目录

CONTENTS

- introduction
- Overview of English Level AB Exam
- The principle and key technologies of intelligent test paper generation algorithm

目录

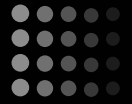
CONTENTS

- Design of Intelligent Paper Generation Algorithm Based on English Level AB Exam
 - Experimental results and analysis
 - Summary and Outlook
- 

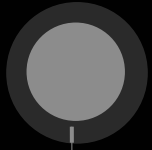
BIG DATA EMPOWERS
TO CREATE A NEW
ERA

01

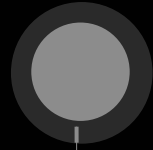
introduction



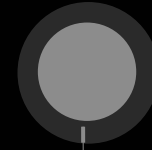
Research background and significance



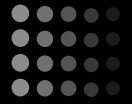
The English Level AB exam is an important component of higher education in China, and it is of great significance for evaluating students' English proficiency and abilities.



With the development of computer technology, the application of intelligent paper generation algorithms in the English AB level exam is gradually receiving attention, which can improve the efficiency and quality of paper generation.



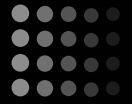
The aim of this study is to explore an intelligent test paper generation algorithm based on the English Level AB exam, providing theoretical support and technical guidance for practical applications.



Research Status and Development Trends at Home and Abroad



- Domestic research status: The research on intelligent test paper generation algorithms started relatively late in China, but has developed rapidly in recent years. At present, some scholars have proposed test paper generation methods based on intelligent optimization algorithms such as genetic algorithm and ant colony algorithm, and have achieved certain results in practical applications.
- Current research status abroad: Research on intelligent test paper generation algorithms has been relatively early in foreign countries, and a relatively complete theoretical system has been formed. Among them, the method of generating test papers based on artificial intelligence technologies such as machine learning and deep learning has received widespread attention and achieved significant results in practical applications.
- Development trend: In the future, with the continuous development and application of artificial intelligence technology, intelligent test paper generation algorithms will become more intelligent and personalized, able to adaptively generate test papers according to the actual situation and needs of students. At the same time, new types of test paper formation methods such as multimodal test paper formation and interdisciplinary test paper formation will gradually emerge and be applied in practical exams.



Research content, objectives, and methods



- **Research content:** This study will focus on exploring the design and implementation of an intelligent test paper generation algorithm based on the English Level AB exam. Specifically, it includes analyzing the characteristics and requirements of the English Level AB exam, designing the process and framework of intelligent paper generation algorithms, and implementing algorithm coding and testing.
- **Research objective:** This study aims to propose an efficient and accurate intelligent paper generation algorithm that can automatically generate papers that meet the requirements of the English AB level exam, improving the efficiency and quality of paper generation. Meanwhile, the effectiveness and practicality of the algorithm are verified through comparative experiments and practical applications.
- **Research methods:** This study will adopt methods such as literature review, theoretical analysis, and experimental verification. Firstly, through literature review, understand the current status and development trends of relevant research both domestically and internationally; Secondly, apply theoretical analysis to construct a model and framework for intelligent test paper generation algorithms; Finally, the performance and effectiveness of the algorithm are verified through experimental verification and practical application.

02

Overview of English Level AB Exam



The definition and objectives of the English Level

AB exam

Definition

The English Level AB exam is an English proficiency test aimed at evaluating a candidate's English listening, speaking, reading, and writing abilities. It is commonly used as proof of English proficiency in academic, professional, or immigration fields.


Objective

The goal of this exam is to provide an objective, accurate, and reliable English proficiency assessment standard, help candidates understand their English proficiency, and provide an effective English proficiency measurement tool for relevant institutions.

••••• The structure and question types of the English Level AB exam paper

- Exam structure: The English Level AB exam usually includes four parts: listening, reading, writing, and speaking, with different question types and difficulty levels for each part.
- Question types: The listening section includes listening to recordings to choose answers, listening to dialogues to choose answers, and other question types; The reading section includes question types such as reading comprehension and cloze tests; The writing section includes question types such as composition and translation; The oral section includes question types such as self introduction, answering questions, and expressing opinions.





The grading standards and requirements for the English AB level exam

- Rating criteria: The rating criteria for the English AB level exam usually include accuracy, fluency, language use, etc. The specific standards vary depending on the exam institution and level.
- Requirement: Candidates need to have a solid foundation in English knowledge, including vocabulary, grammar, phonetics, etc., as well as good listening, speaking, reading, writing, and language proficiency. In addition, candidates also need to understand the exam requirements and scoring standards, develop a reasonable preparation plan, and conduct targeted exercises and mock exams.

03

**The principle and key
technologies of intelligent test
paper generation algorithm**

The basic principle of intelligent test paper generation algorithm

01

Rule based approach

Select test questions based on predefined rules or strategies, such as difficulty, coverage of knowledge points, etc.

02

Random algorithm

Randomly select test questions from the question bank to form a test paper, ensuring the randomness and diversity of the test paper.

03

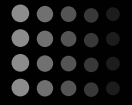
Genetic algorithm

simulates the process of biological evolution and optimizes the quality of test papers through operations such as selection, crossover, and mutation.

04

Ant colony algorithm

Simulates ant foraging behavior, selects test questions based on pheromone concentration, and realizes automatic paper formation.



Key Technology Analysis

- Construction of test question bank: Establish a high-quality and standardized test question bank, including the entry, classification, and labeling of test questions.
- Exam quality evaluation: Define evaluation indicators for exam quality, such as difficulty, discrimination, knowledge coverage, etc.
- Intelligent search algorithm: Apply efficient search algorithms to quickly find test questions that meet the requirements in the question bank.
- Optimization of paper formation strategy: Based on actual needs and teaching syllabus, continuously optimize the paper formation strategy to improve the quality of the test paper.



以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：
<https://d.book118.com/278026010015006101>