## 电子科技大学

UNIVERSITY OF ELECTRONIC SCIENCE AND TECHNOLOGY OF CHINA

## 学期论文

## **Term Paper**



论又题目:					
		English	Title		
学	院:	XXX 学院			
专	业:	翻译			
学	号:	2xxxxxxxxx			
作者姓名:		Name			
指导老师:		XXX			

#### 摘要

#### **Abstract**

English Abstract English English Abstract English Abstract English Abstract English English

Keyword: Keyword, Keyword

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#### **Chapter 1 Introduction**

### 1.1 Research Background and Significance

This is text This

#### 1.2 Outline of the Thesis

This report is organized as follows.

#### **Chapter 2** Copy Elision

#### 2.1 Introduction

This is text This

## 2.2 Mandatory Elision of Copy/Move Operations

This is text This

(1) This is text T

//code

This is text This is

(2) This is text T

//code

This is text This is

//code

## 2.3 Non-mandatory Elision of Copy/Move Operations

- (1) This is text T
- (2) This is text T
- (3) This is text T
- (4) This is text T

is text This is te

- (5) This is text T
- (6) This is text T

//code

### 2.4 Notes and Example

- (1) This is text T
- (2) This is text T
- (3) This is text T

is text This is text

- (4) This is text T
- (5) This is text T

This is text This

//code

#### **Chapter 3** Return Value Optimization

#### 3.1 Introduction

This is text This

#### 3.2 Preparation

This is text This is

This is text This

```
//code
```

This is text This

```
Skykey@Skykey-Win Clang++ -v
clang version 12.0.0
Target: x86_64-pc-windows-msvc
Thread model: posix
InstalledDir: C:\Program Files\LLVM\bin
```

This is text This

## 3.3 Return Value Optimization

#### 3.3.1 Introduction

This is text This

#### 3.3.2 Example

Here's a simple example:

\\code

Output (note that -fno-elide-constructors disable RVO in Clang):

\\code

This is text *This is text* ) This is text This is text.

This is text This is text This is text This is text This is text

- (1) This is text This is text This is text This is text This is text
- (2) This is text This is text
- (3) This is text This is text This is text This is text This is text

### 3.4 Named Return Value Optimization

#### 3.4.1 Introduction

This is text This

#### 3.4.2 Example

Here's a simple example:

//code

Which has a similar output to *ExampleRVO()* above:

//code

d' tor

#### 3.4.3 Performance

This is text This is

This is text This

//code

Output:

//code

This is text This

//code

This is text This

# 3.5 Return Value Optimization from the assembly level

This is text This is text This is text This is text This is text

//code

This is text This

Output:

//code

This is text This

//code

This is text This

This is text This

This is text This

Now we again analyze the stack of the program.

//code

- (1) This is text T
- (2) This is text T
- (3) This is text T

- (4) This is text T
- (5) This is text T
- (6) This is text T
- (7) This is text T

This is text This

# 3.6 When Return Value Optimization doesn't/can't happen

This is text This

#### 3.6.1 Deciding on Instance at Runtime

This is text This is

//code			
Output:			
//code			

#### 3.6.2 Assignment

//code			
Output:			
//code			

## 3.6.3 Returning Member

This is text This is text This is text This is text This is text

//code			
Output:			
//code			

#### **Chapter 4 Summary**

This is text This

- (1) This is text This is text This is text This is text This is text
- (2) This is text This is text

This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This is text This

//code

This is text This

This is text This is

//code

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This is text This is text

- (1) This is text This is text
- (2) This is text This is text This is text This is text This is text
- (3) This is text This is text This is text This is text This is text
- (4) This is text This is text This is text This is text

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