



Tencent

Game Engineering Intern

## INFO



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## EDUCATION

**Bachelor of Engineering** (2017.09-2021.07)

**Harbin University of Science and Technology**

GPA: 84.28/100, HUST Scholarship(five times)

Majors: Computer Science(Graphics and Image processing)

**Master of Engineering** (2021.08)

**The University of Utah**

Majors: Computing (Graphics & Visualization)

Professor: Cem Yusekl



## SKILLS

- \* Master the basic operation of C, be able to use pointers, arrays, create functions, linked lists, and string related operations.
- \* Master the basic operation of C++, master object-oriented programming, understand design patterns and design principles, use STL, create interface with MFC, and draw with MFC.
- \* Master socket network programming, be familiar with TCP / IP protocol stack and OSI seven layer model.
- \* Master the synchronization and communication between threads / processes, and master the mechanism of thread pool, dynamic library, static library and lock.
- \* Master the basic operating commands of Linux operating system, be familiar with a variety of server models, the writing and use of makefile and the writing of file IO.
- \* Master the basic operation commands of MySQL, and master things, views, indexes, triggers and paradigms.
- \* Master one-to-one data structures (array, linked list, queue, stack), one to many data structures (binary tree, BST, red black tree), many to many data structures (graph creation, depth first search, breadth first search) and basic sorting algorithms (bubble, fast, insert, select, merge, count, bucket, hill, bisection, heap) Master basic search algorithms (harmony search, binary search, KMP).
- \* Master the basic operation of OpenGL, be able to use OpenGL for image rendering, and master the combination of OpenGL, MFC and OpenCV to make interface and image processing.
- \* Master basic computer graphics algorithms and digital image processing algorithms



## PERSONAL WORKS

### Graphic system based on harmony search algorithm and CNN

Function Description:

- \*Basic 2D & 3D graphics drawing operations (line, pencil line, Bezier curve, spline, rectangle, circle, ellipse, triangle, regular pentagon, regular hexagon, arbitrary polygon, cube, cylinder, cone, sphere, sky box, external model reading)
  - \*Basic graphic modification operations (image filling, linear modification, line weight modification, rubber band operation, eraser operation, material addition and saving)
  - \*Basic light source modification operations (horizontal light, point light, spotlight)
  - \*Basic graphic position operation (parallel, inscribe, circumscribe, line circle tangent)
  - \*Basic graphics retrieval (primary rough retrieval, secondary accurate retrieval)
- Using technologies: MFC, OpenGL, OpenCV, C++, design pattern, STL, harmony search algorithm, CNN, Bresenham algorithm, Phong lighting, thread pool, producer consumer model

### Cloud system based on TCP / IP protocol

Function Description:

- \*Registration, login, friends list, friends status, add and delete friends, user profile change, single chat, file upload to nailling disk, file second transmission, file breakpoint continuation, file download, file sharing, file extraction, file deletion, log
- Usage technology: windows, CS architecture, TCP, design mode, STL, thread pool, producer consumer, mysql, server, client: