

ORIGINQ

量子计算教研一体化平台

QUANTUM COMPUTING T&R PLATFORM







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INTRODUCTION

平台简介

The quantum computing T&R platform is a quantum computing education teaching and research platform for colleges and universities. The purpose is to help colleges and institutions to establish their own quantum computing teaching system, and to provide teaching process solutions from teaching plan projects, programming training environment for quantum circuit graphical programming and code programming, teaching plan project examples, quantum computing learning centers, and teaching management.

工作台

图形化编程

IDE编程

代码仓库

代码评估

学习中心

虚拟实验室

课程体系

统计报表

系统管理

本源量子教研一体化平台

图形化编程

图形拖拽，快速完成线路创建

全振幅量子虚拟机

33 bits
支持量子比特

创建线路 >>

含噪声量子虚拟机

32 bits
支持量子比特

创建线路 >>

部分振幅量子虚拟机

68 bits
支持量子比特

创建线路 >>

单振幅量子虚拟机

200 bits
支持量子比特

创建线路 >>

常用入口

添加成员

排行榜

成员使用数据

成员与部门

用户操作日志

用户登录日志

算法示例

- HHL Algorithm
- Deutsch-Jozsa Algorithm
- Shor Algorithm
- Grover Algorithm

学习中心

- 量子世界
- 量子力学
- 量子计算原理
- Mayer-Penny Game
- Swap Test Algorithm
- QPanda量子编程框架
- PyQPanda量子编程框架
- QRunes量子编程语言

最近使用线路

线路名称	线路ID	计算类型	更新时间
Untitled Experiment	e916a413cc7ed4298...	全振幅	2023-08-24
Untitled Experiment	9ef1f9b4d9782d07b...	全振幅	2023-08-24
Untitled Experiment	c63699c0a8acfce122...	全振幅	2023-08-24
Untitled Experiment	5fd37c373ce791e69...	单振幅	2023-08-24

最近使用IDE项目

名称	状态	创建时间	更新时间	操作
HHL	已停止	2023-08-11	2023-11-12	🔄
星空2号项目	运行中	2023-08-28	2023-10-25	🔄 ⏸
234234	已停止	2023-08-24	2023-08-28	🔄
星河四号	已停止	2023-08-24	2023-08-24	🔄

SIGNIFICANCE



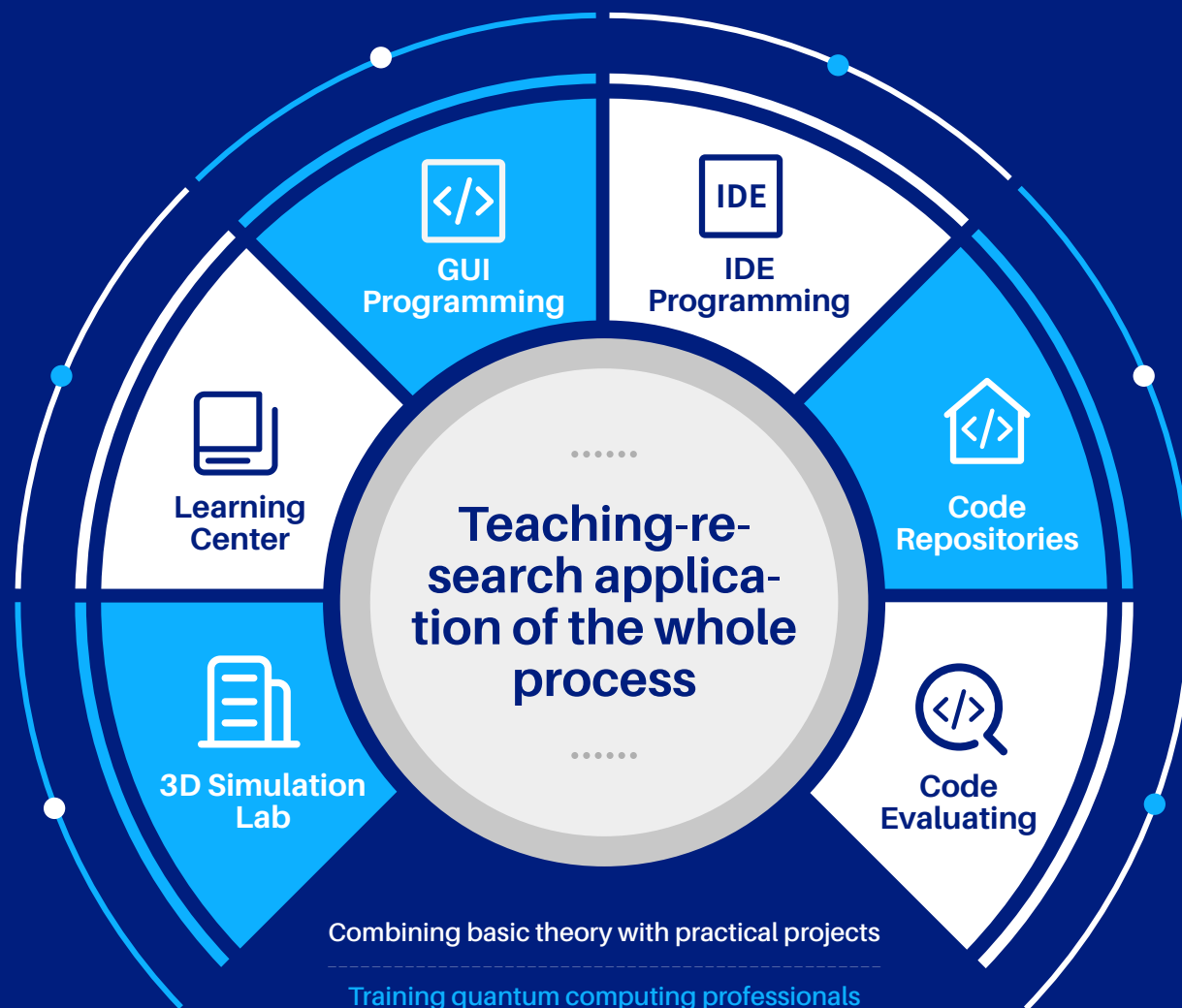
• Quantum Computing Talent Training

At present, quantum computing industry is being laid out both at home and abroad, and there is an urgent need for a large number of professional quantum technology talents. Teachers can use the Quantum T&R Platform to help students better understand quantum computing, as well as implement and test quantum algorithms, etc.

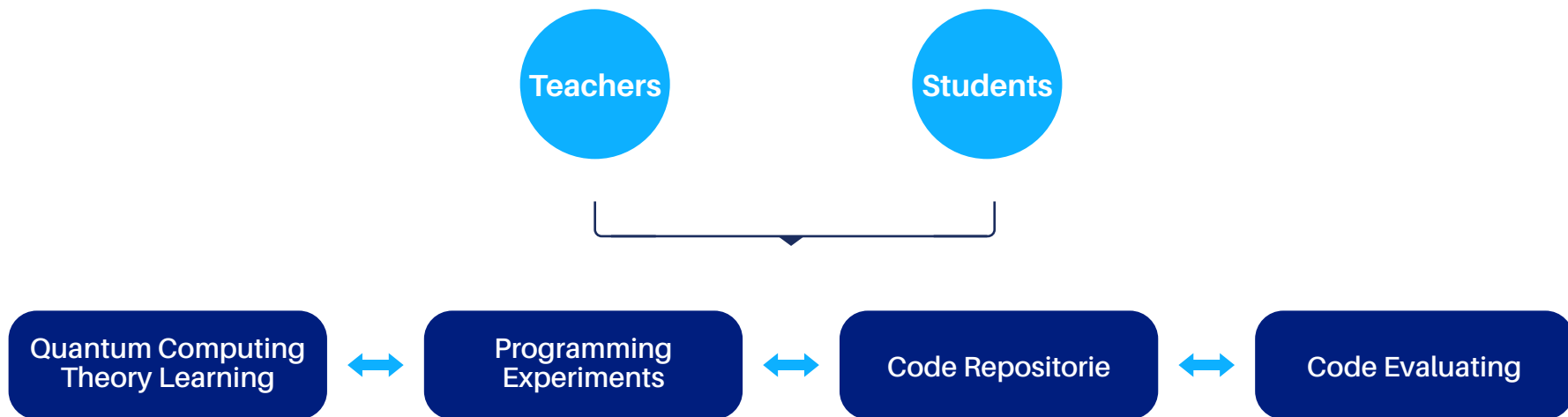


• Quantum Application Design

Even though quantum computer prototypes and quantum chips have been created now, any algorithm needs to be tested to conform to real-life applications. Research teams in universities can use the Quantum T&R Platform to develop quantum programming software or algorithms and enrich quantum development tools.



APPLICATION SCENARIOS



Customer FAQs and needs

- 1 Influenced by exam-oriented education, students are strong in accepting classroom theoretical knowledge but weak in applying knowledge to solve practical problems, and most students neglect the cultivation of hands-on skills, professionalism and teamwork awareness.
- 2 Teachers' eaborate lesson plans and content struggle to follow the rapidly changing technological theories and cutting-edge trends in the industry.
- 3 The lack of a unifed and standardised process and platform for subject competitions, experimental projects and comprehensive practical training.

GUI PROGRAMMING

Users can drag and drop logic gates to quickly implement quantum circuit construction, which is easier to get started and suitable for users with weak programming skills.

The screenshot displays the '本源量子教研一体化平台' (Origin Quantum Teaching and Research Integrated Platform). The interface includes a sidebar with navigation options like '工作台' (Workbench), '图形化编程' (Graphical Programming), 'IDE编程' (IDE Programming), '代码仓库' (Code Repository), '代码评估' (Code Evaluation), '学习中心' (Learning Center), '虚拟实验室' (Virtual Lab), '课程体系' (Course System), '统计报表' (Statistical Reports), and '系统管理' (System Management).

The main content area is divided into several sections:

- 图形化编程** (Graphical Programming): A section for creating quantum circuits using logic gates. It includes four cards for different types of quantum computing: '全振幅量子虚拟机' (33 bits), '含噪声量子虚拟机' (32 bits), '部分振幅量子虚拟机' (68 bits), and '单振幅量子虚拟机' (200 bits). Each card has a '创建线路' (Create Circuit) button.
- 常用入口** (Common Entry): A section with buttons for '添加成员' (Add Member), '排行榜' (Ranking), '成员使用数据' (Member Usage Data), '成员与部门' (Member and Department), '用户操作日志' (User Operation Log), and '用户登录日志' (User Login Log).
- 算法示例** (Algorithm Examples): A section listing various quantum algorithms such as HHL, Deutsch-Jozsa, Shor, Grover, Swap Test, and QPanda.
- 学习中心** (Learning Center): A section for learning quantum computing concepts, including '量子世界' (Quantum World), '量子力学' (Quantum Mechanics), '量子计算原理' (Quantum Computing Principles), and 'Mayer-Penny Game'.
- 最近使用线路** (Recently Used Circuits): A table showing the latest quantum circuits created by users.
- 最近使用IDE项目** (Recently Used IDE Projects): A table showing the latest IDE projects created by users.

The '最近使用线路' table contains the following data:

线路名称	线路ID	计算类型	更新时间
Untitled Experiment	e916a413cc7e429882434e56d...	全振幅	2023-08-24
Untitled Experiment	9a1f9b4d9782d07b4b994d4f15...	全振幅	2023-08-24
Untitled Experiment	c63699c0a8ace122a80c54dfc5...	全振幅	2023-08-24
Untitled Experiment	5fd937c373ce791e6969ed4871b5...	半振幅	2023-08-24

The '最近使用IDE项目' table contains the following data:

名称	状态	创建时间	更新时间	操作
HHL	已停止	2023-08-11	2023-11-12	🔄
量子2号项目	运行中	2023-08-28	2023-10-25	🔄 ⏸
234234	已停止	2023-08-24	2023-08-28	🔄
星河四号	已停止	2023-08-24	2023-08-24	🔄

Feature 1: Support for 4 types of quantum virtual computing

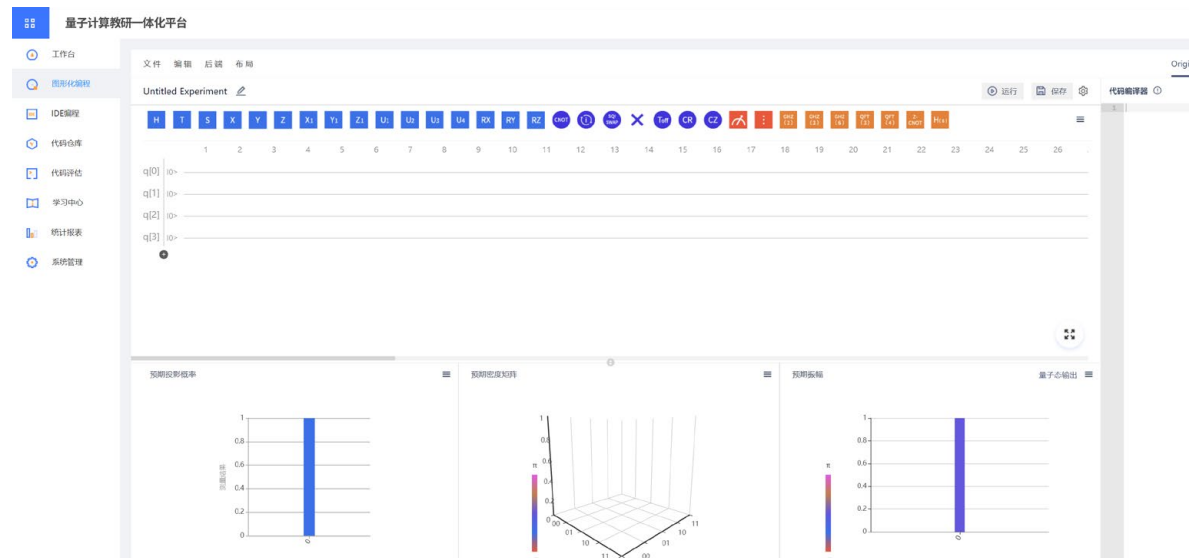
- full-amplitude quantum computing
- single-amplitude quantum computing
- partial-amplitude quantum computing
- noise-inclusive simulated quantum computing

GUI PROGRAMMING

Users can drag and drop logic gates to quickly implement quantum circuit construction, which is easier to get started and suitable for users with weak programming skills.

Feature²: Complete quantum programming capabilities

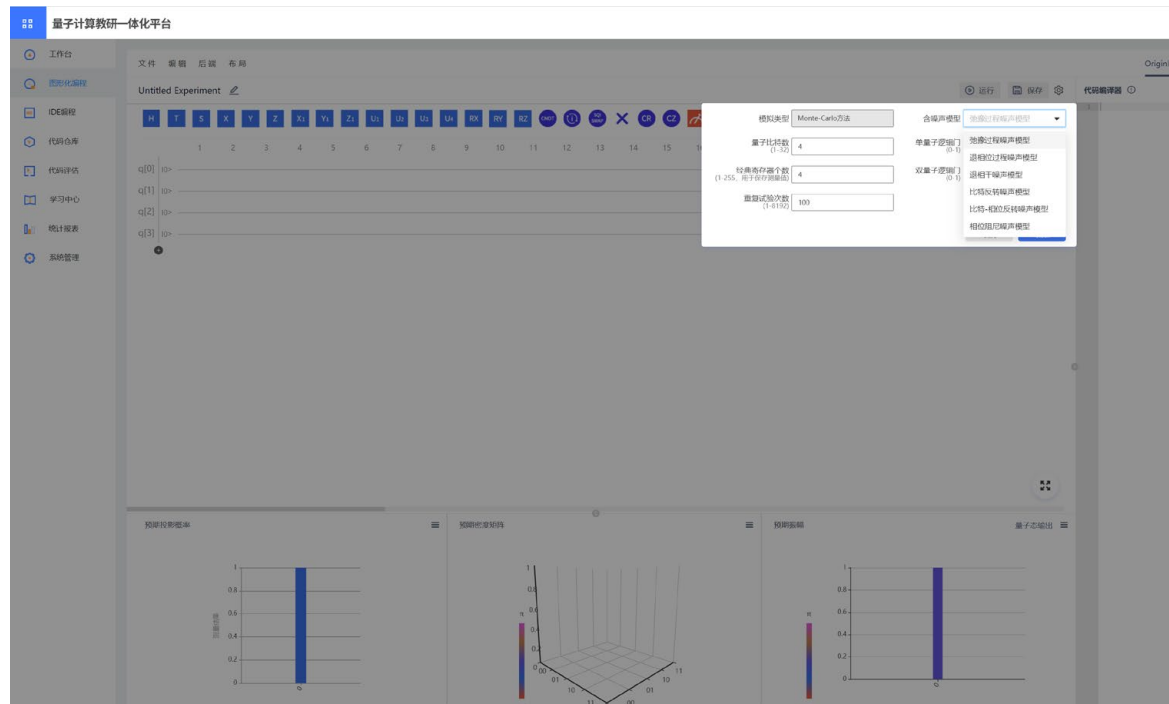
- Providing 16 single-bit gates and 7 multi-bit gates
- Providing measurement gates and code ensemble functions



Tips: Quantum circuit simulation is used to realize quantum algorithm. The basic unit of quantum circuit model is quantum logic gate, and arbitrary quantum circuit can be constructed by quantum logic gate sequence

GUI PROGRAMMING

Users can drag and drop logic gates to quickly implement quantum circuit construction, which is easier to get started and suitable for users with weak programming skills.



Feature 3: Support for 6 noise models

- Noise model for relaxation processes
- Dephasing process noise model
- Decoherence noise model
- Bit-inversion noise model
- Bit-phase-inversion noise model
- Phase-damped noise model

IDE PROGRAMMING

The IDE supports a mix of Python/C++ and QRunes languages to meet the algorithm implementation needs of various types of quantum algorithm developers.

► The browser-based Quantum Computing IDE provides developers with an uninterrupted cloud-based work-station, eliminating the need to install and configure the base development environment when programming with the IDE.

The screenshot displays the '量子计算教研一体化平台' (Quantum Computing T&R Platform) interface. On the left is a sidebar with navigation options: 工作台 (Workbench), 图形化编程 (Graphical Programming), IDE编程 (IDE Programming), 代码仓库 (Code Repository), 代码评估 (Code Evaluation), 学习中心 (Learning Center), 统计报表 (Statistics Reports), and 系统管理 (System Management). The main area is titled '量子计算教研一体化平台' and shows a list of projects under the '全部项目' (All Projects) tab. The projects are listed in a table with columns for Name, Status, Creation Time, and Update Time.

名称	状态	创建时间	更新时间
test_wp	已停止	2022-02-17 19:24:01	2022-02-17 20:05:59
1111 111	已停止	2022-01-12 09:54:14	2022-02-07 15:04:55
python-project python	已停止	2022-01-11 18:10:50	2022-01-11 18:50:02
ceshi ceshi	已停止	2022-01-11 18:03:57	2022-01-11 18:10:55
HHL	已停止	2021-11-17 09:35:48	2022-02-21 18:10:27
Shor	已停止	2021-11-16 17:52:11	2022-01-11 14:20:02
Deutsch-Jozsa	已停止	2021-11-16 11:59:18	2022-02-07 15:40:25
Grover	已停止	2021-11-16 11:07:20	2022-01-10 15:00:02

At the bottom of the interface, there are buttons for '新建项目' (New Project) and '刷新' (Refresh).

IDE PROGRAMMING - APPLICATION SCENARIOS

量子计算教研一体化平台

工作台

图形化编程

IDE编程

代码仓库

代码评估

学习中心

统计报表

系统管理

算法示例

HHL Algorithm

Deutsch-Jozsa Algorithm

Shor Algorithm

Grover Algorithm

编程项目

全部项目

最近使用

1111

运行中

HHL

2021-11-17 09:35:48

< HHL Algorithm

算法介绍

参考流程图

参考代码

IDE编程

HHL算法

算法描述

背景描述

量子计算机利用诸如叠加和纠缠的量子现象来进行计算。这在经典计算机上是无法计算的。量子算法与经典计算相比是指数级加速。Harrow, Hassidim和Lloyd (HHL) 提出了一种求解线性系统 $A\vec{x} = \vec{b}$ (其中 A 是量子, x, b 是向量)。HHL算法解决了什么样的问题? 那就是求解线性方程的问题。众所周知, 线性系统是许多科学和工程领域的核心。由于HHL算法在特定条件下实现了相对于经典算法有指数加速效果。从未来能够在机器学习、数值计算等领域有优势体现。配合Grover算法在数据方面的加速, 将是未来量子机器学习、人工智能等科技得以突破的关键性技术。

线性方程组问题可定义为: 给定矩阵 $A \in C^{N \times N}$ 和向量 $\vec{b} \in C^N$, 找到 $\vec{x} \in C^N$ 满足 $A\vec{x} = \vec{b}$ 。

$$C_A = \begin{bmatrix} 0 & A \\ A^H & 0 \end{bmatrix}, C_b = \begin{bmatrix} b \\ 0 \end{bmatrix}, C_x = \begin{bmatrix} 0 \\ x \end{bmatrix}.$$

如果矩阵 A 每行或每列最多具有 s 个非零元, 则称线性方程组称为 s -**稀疏线性方程组**。用经典算法 (共轭梯度法) 来解决 N 维的 s -**稀疏线性方程组**, 需要的时间复杂度为 $O(Nsk\log(\frac{1}{\epsilon}))$, 这里 k 表示系统的条件数, ϵ 表示近似的精度。HHL是一种量子算法, 当 A 是自共轭矩阵时, 用HHL算法求解线性方程组的时间复杂度为 $O(\log(N)s^2\log(\frac{1}{\epsilon}))$ 。

HHL算法相对于经典算法有着指数级的加速, 但经典算法可以返回精确解, 而HHL算法只能返回近似解。HHL算法是一种纯量子算法, 它和它的改进版的出现对于证明量子算法的实用性有着重大意义。

算法定义

HHL算法是一种求解线性方程组的量子算法。

算法原理

在求解线性方程组进行一定格式转换后, 可以使用HHL算法进行求解。HHL算法主要包含了以下三大步骤, 并需要使用右端比特、存储比特和辅助比特总共三个寄存器。

- 构造右端量子态。对存储比特及右端比特进行参数化左端矩阵的相位估计。将右端矩阵的复数形式特征值全部转移到存储比特的基向量中。
- 进行一系列参数化特征值的受控旋转, 以消除所有的特征值相关量子态。将特征值从存储比特的基向量转移到辅助比特。
- 对特征值比特及右端比特进行逆相位估计。将存储比特幅值上的特征值合并到右端比特上。当辅助比特测量得到特定状态时, 在右端比特上可得到解的量子态。

在进行算法具体步骤之前, 需要对经典形式的线性方程组求解问题 $A\vec{x} = \vec{b}$ 进行特定转换:

假设矩阵 A 为自共轭矩阵, 否则取

$$C_A = \begin{bmatrix} 0 & A \\ A^H & 0 \end{bmatrix}, C_b = \begin{bmatrix} b \\ 0 \end{bmatrix}, C_x = \begin{bmatrix} 0 \\ x \end{bmatrix}.$$

使得 $C_A C_x = \vec{C_b}$ 成立且满足 C_A 自共轭。

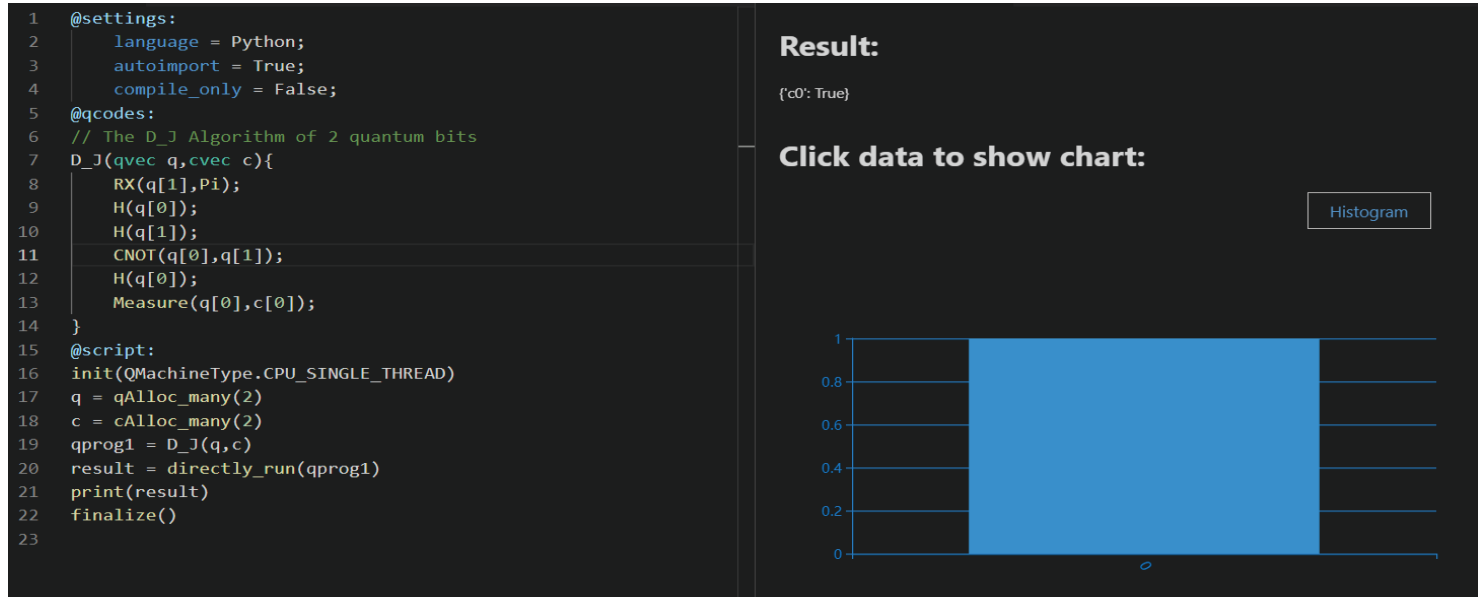
▶ Quick start projects

Through the preset development environment of IDE programming, you can directly create the project of the specified environment, ensure the rapid construction of a consistent development environment, quickly start the project into the development state, without the need for tedious environment configuration.

▶ Real-time debugging

When your code changes, you can access it from anywhere, run experiments, and get the results.

IDE PROGRAMMING - FEATURES



- ❶ Browser-based integrated development environment supporting online coding, compiling, running and debugging.
- ❷ The IDE requires no installation or configuration and provides one-click access to the quantum development cloud environment, with on-demand access to compute and storage resources and a quick pull of the quantum computing programming environment.
- ❸ Supporting for real-time debugging, plug-in extensions.
- ❹ Supporting for code highlighting, auto-completion, Git integration, terminal and other basic IDE features.
- ❺ Integrated QPanda and QRunes development environment, supporting QRunes language for quantum program development.
- ❻ Supporting for json format and demonstrating graphical results to facilitate analysis of run results.

CODE REPOSITORY

 控制面板

 工单管理

 合并请求

 发现

 +

 cxy

smz / python-project

 文件 ① 工单管理 ② 合并请求 仓库设置 9 提交历史 2 代码分支 分支: dev

python-project

HTTP

http://xinda.originqc.com.c

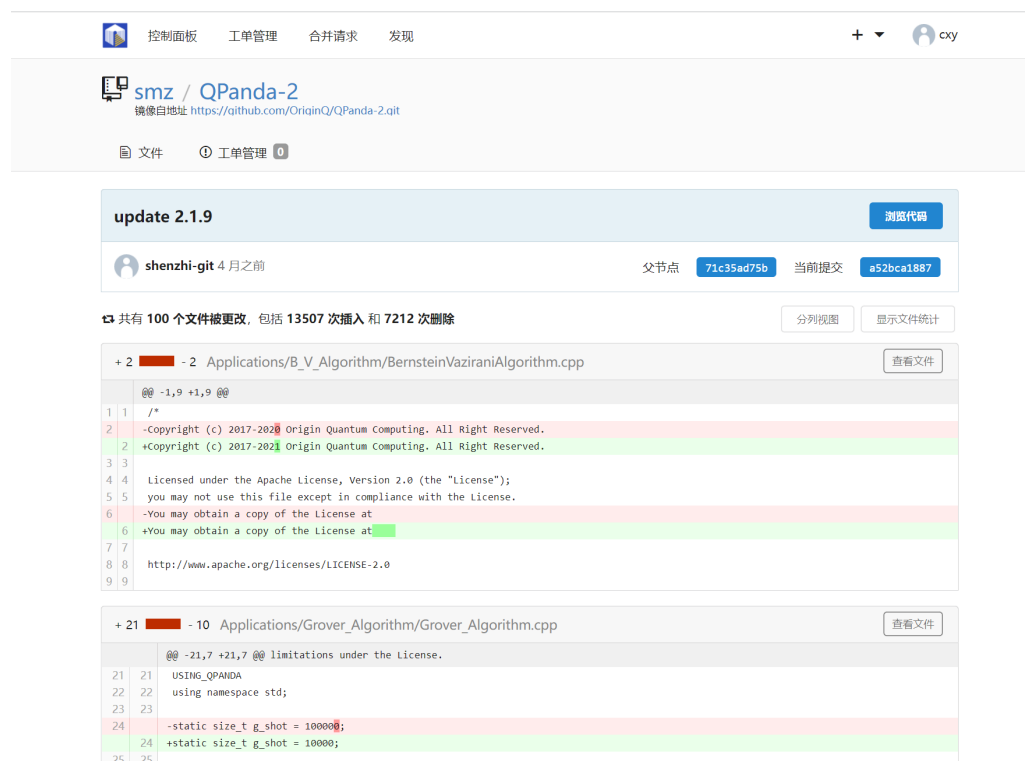
 README.md

- In software development projects with rapid iteration, it is a common scenario for multiple people to collaborate on code development. In addition to having a remote backup of your project, hosting your code in the cloud is an even better way to collaborate as a development team.

- The BY code repository provides code management, branch management, permissions management, versioning and other useful features to help developers overcome the limitations and security barriers of local code management. Combined with the IDE programming application, the code can be collaborated remotely, allowing project team members to access the code on a regular or random basis, and to work on code improvements.

CODE REPOSITORY - FEATURES

- Supporting for GIT version control tools, available in the cloud, with guaranteed data security.
- Supporting line-by-line comparisons, line-by-line comments, merge branches and automatically adds reviewers for a great code reading and review experience.
- Supporting for up/down and left/right comparison modes when viewing code. The difference between changes made before and after the code commit is clearly visible.
- The specification version number is automatically generated when code is released and directly associated with the task; allowing source code to be released and delivered in a standardised manner and enabling efficient collaboration.
- Granular management of branches and fine-grained authority settings for standardised and organised teamwork.



CODE EVALUATING

量子计算教研一体化平台

工作台

图形化编程

IDC编程

代码仓库

代码评估

学习中心

统计报表

系统管理

代码评估任务

关键字查询

任务名称	质量得分	问题概览	扫描时间	操作
wab-test-sonar-tmp	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 16:20:10	查看报告 下载
smz/test111	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:16:52	查看报告 下载
cxy/test	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:16:32	查看报告 下载
smz/QPanda-2	通过	缺陷12 严重118 主要243 次要197 警告0	2022-02-21 00:15:45	查看报告 下载
smz/python_project	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:14:59	查看报告 下载
smz/python---project	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:14:39	查看报告 下载
test00/testhebing	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:14:13	查看报告 下载
test00/TTTT	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:13:53	查看报告 下载
test00/testall	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:13:33	查看报告 下载
test00/PYtest	通过	缺陷0 严重0 主要0 次要0 警告0	2022-02-21 00:13:10	查看报告 下载

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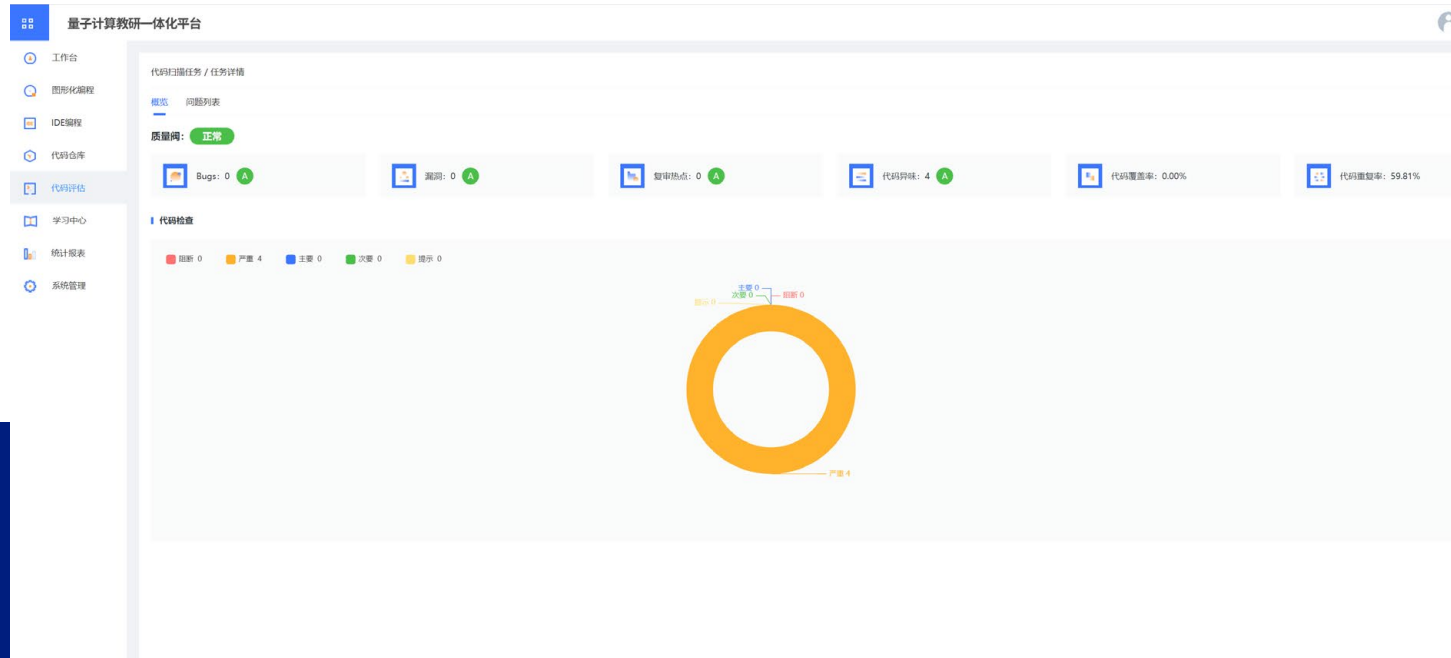
>

跳至

页

- The system is an independent quantum programming code quality monitoring system developed by Origin Quantum. The system is integrated into the platform, and after users program using the platform, the system will evaluate the written code by itself. At the same time, users can view and download their own code quality assessment reports through the platform based on time points. For administrators and teachers, the system will regularly push the class programming code quality report, so that administrators and teachers can easily customise their learning plans based on the analysis report.

CODE EVALUATING - FEATURES



- Code Scan currently has multiple tools and thousands of rules integrated within it to find vulnerabilities in your code in multiple dimensions and suggest changes.
- Supporting for up/down and left/right comparison modes when viewing code. The difference between changes made before and after the code commit is clearly visible.
- Granular management of branches and fine-grained authority settings for standardised and organised teamwork.

LEARNING CENTER

量子算法

2.1 随机数生成

2.2 D-J Algorithm

2.3 Mayer-Penny Game in Quantum

2.4 Swap Test 算法

2.5 Simon 算法

2.6 Bernstein-Vazirani Algorithm

2.7 HHL算法

2.8 Counterfeit Coin Game

参考线路图:

量子金融应用研究课程包

量子金融应用研究课程包

量子计算是新一代信息技术，是突破传统认知的前沿性、颠覆性和革命性科学技术。量子计算在金融领域的应用早已开展。课程旨在通过量子计算基础知识入门到算法原理的理论体系学习，结合金融领域具体案例拆解，帮您从理论到实践，系统性学习了量子金融领域知识。

进入课程

量子机器学习课程包

量子机器学习课程包

本课程是关于量子机器学习介绍与应用的专业课程。课程以目前量子计算在机器学习领域的应用案例为目标，首先讲解了量子机器学习的基础概念，基础框架以及本资源库自研的机器学习框架VQNet，然后介绍了利用VQNet实现相关机器学习量子算法的实际应用案例。

进入课程

量子化学应用研究课程包

量子化学应用研究课程包

本课程是关于量子计算化学的算法原理及应用的专题课程先介绍了经典计算化学的发展，其次介绍了量子计算化学的一些算法及相关原理，接着介绍了量子编程和量子化学软件ChemIQ，最后介绍了量子计算化学在药物研发领域的实际应用。

进入课程

量子计算基础课程包

量子计算基础课程包

量子计算是一种遵循量子力学规律调控量子信息单元进行计算的新型计算模式。本系列课程描述了从量子计算概念提出到发展，介绍了量子计算的背景和基础理论知识，并着重讲解介绍了一些常见的量子算法：Shor算法、D算法、Grover算法等。

下载课程包

量子资料

1.量子计算基本概念

1.1量子计算的必要性

1.2量子计算基本概念

1.3量子计算系统

2.量子计算原理

2.1量子计算基本步骤

2.2量子逻辑门

2.3输出量子逻辑门

2.3 两比特量子逻辑门

课程 两比特量子逻辑门.docx

编程题 两比特量子逻辑门代码实现

视频 两比特量子逻辑门.mp4

The learning center provides the introduction of basic knowledge of quantum computing, instructions on the use of quantum program development tools and other documents to help users quickly understand the use of system software and improve the theoretical knowledge of quantum computing.

3D SIMULATION LAB



3D Simulation Lab utilizes 3D simulation technical to present interactive visual models of superconducting quantum computers(research enterprises: IBM, Google, Origin Quantum) ,semiconductor quantum computer(research enterprises: Intel, Origin Quantum) and ion trap quantum computer. Each category of quantum computing physical systems is thoroughly explained, from basic concepts to underlying principles, from external structures to internal configurations, to assist users in gaining an understanding of the current state of development in quantum computing.

3D SIMULATION LAB - FEATURES



- Users can learn quantum computer related content visually, touchably, and controllably through the simulation laboratory scene .
- Interactive teaching combined with animation makes theoretical knowledge more vivid.
- The whole process of qubit assembly, reading, regulation and connection is displayed in the form of breakthrough.
- Experimental operations are provided to guide users to realize quantum computing using quantum qubits.

CURRICULUM SYSTEM

本源量子教研一体化平台

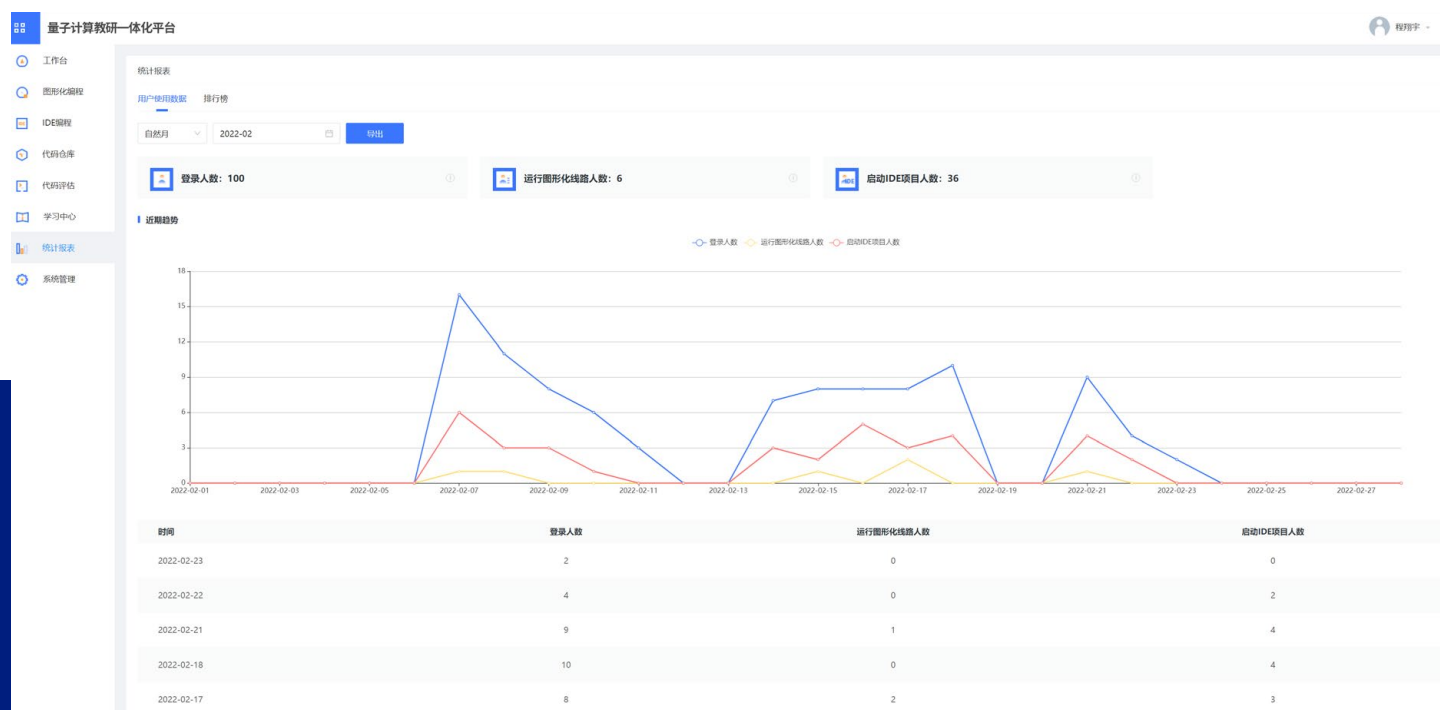
admin

量子计算课程体系 由此入手，带你成为量子计算工程师

- 量子计算基础课程**
 量子计算是一种遵循量子力学规律调控量子信息单元进行计算的新型计算模式。本系列课程描述了从量子计算概念提出到发展，介绍了量子计算的背景和基本理论知识，并着重讲解介绍了一些常见...
[进入课程](#)
- 司南系统教学课程**
 本课程主要对我国首个量子计算操作系统“司南量子计算操作系统”进行一个简单讲解，希望通过本次讲解，大家能对量子计算及量子计算操作系统有更深刻的认识，意识到量子计算系统研究...
[进入课程](#)
- QPanda、IDE教学课程**
 QPanda/OriginQ IDE是由本源量子开发的量子软件工具库，QPanda可以轻松构建、运行和优化量子算法。本课程包含了QPanda简介、QPanda的框架结构和组成、QPanda的安装及对...
[进入课程](#)
- 量子金融课程**
 量子金融是一个跨学科的研究领域，运用量子物理学和经济学家开发的理论和方法来解决金融问题，它是经济物理学的一个分支。本课程我们主要以简单的欧式期权为例，讲述量子计算在金融领域...
[进入课程](#)
- 量子机器学习课程**
 本课程是关于量子机器学习的介绍与应用的专业课程。课程以目前量子计算在机器学习领域的应用案例为目标，首先讲解了量子机器学习的相关基本概念、基础框架以及本源量子自研的机器学习框...
[进入课程](#)
- 量子计算化学课程**
 本课程是关于量子计算化学的算法原理及应用的专业课程。课程中首先介绍了经典计算化学的发展，其次介绍了量子计算化学中已有的一些算法及相关原理，接着介绍了量子编程框架QPanda和量...
[进入课程](#)

The curriculum system provides professional quantum computing course videos and courseware resources, and the curriculum system developed by the official, extracts the actual work scene of the enterprise, and helps users learn the basic professional knowledge that quantum computing engineers should have.

STATISTICAL FORM



Statistics in the use of the platform in the process of users to the system software usage and frequency of use, through the data report form display, and provide data export function.

本源量子教研一体化平台

- 工作台
- 图形化编程
- IDE编程
- 代码仓库
- 代码评估
- 学习中心
- 虚拟实验室
- 课程体系
- 统计报表
- 系统管理

成员管理

权限配置

系统日志

注册激活

真机管理

平台配置

本源量子

全部角色

全部状态

搜索成员和部门

添加成员

批量导入

导出

登录账号	姓名	用户组	部门
lizhi	李至	管理员	本源量子本部
wq	万琪	管理员	本源量子本部
ztt	张婷婷	管理员	本源量子本部
lh	李昊	管理员	本源量子本部
hz	胡慧	管理员	本源量子本部
chh	巢慧慧	管理员	本源量子本部
wc	汪春	管理员	本源量子本部
test	本源量子	管理员	本源量子本部
xl	夏乐	管理员	本源量子本部
lf	李飞	管理员	本源量子本部

系统管理

SYSTEM
ADMINISTRATION

MEMBERSHIP MANAGEMENT

量子计算教研一体化平台

工作台

图形化编程

IDE编程

代码仓库

代码评估

学习中心

统计报表

系统管理

成员管理

权限配置

系统日志

信息大学

物理系

理论力学专业1

一班

999

二班

三班

附打算

数学系

理论应用数学专业

一班

二班

三班

英语English系

商务英语专业

高级班

一班

二班

普通班

一班

二班

计算机系

计算机科学与技术...

计算机一班

s

计算机二班

化学系

实验化学专业

一班

二班

应用化学专业

二班

全部角色

全部状态

搜索成员和部门

添加成员

批量导入

导出

登录账号	姓名	用户组	部门	账号状态
lz	李至	管理员, 教师	信息大学/物理系/理论力学专业1/一班/999	已启用
smz	沈木子	管理员	信息大学	已启用
wq	万琪	教师, 管理员, 普通用户	信息大学/英语English系/商务英语专业/高级班	已启用
20210001	徐芳姚	普通用户, 教师, 管理员	信息大学/物理系/理论力学专业1/二班	已启用
20210002	张三	教师, 管理员	信息大学/物理系/理论力学专业1/二班	未启用
zn	张宁	普通用户, 教师	信息大学	已启用
wab	王奕博	管理员	信息大学	已启用
2.0210001E7	张1	普通用户	信息大学	已启用
wuqlang	吴强	管理员	信息大学	已启用
20210008	李一	普通用户	信息大学	已启用

共 77 条

1

2

3

4

...

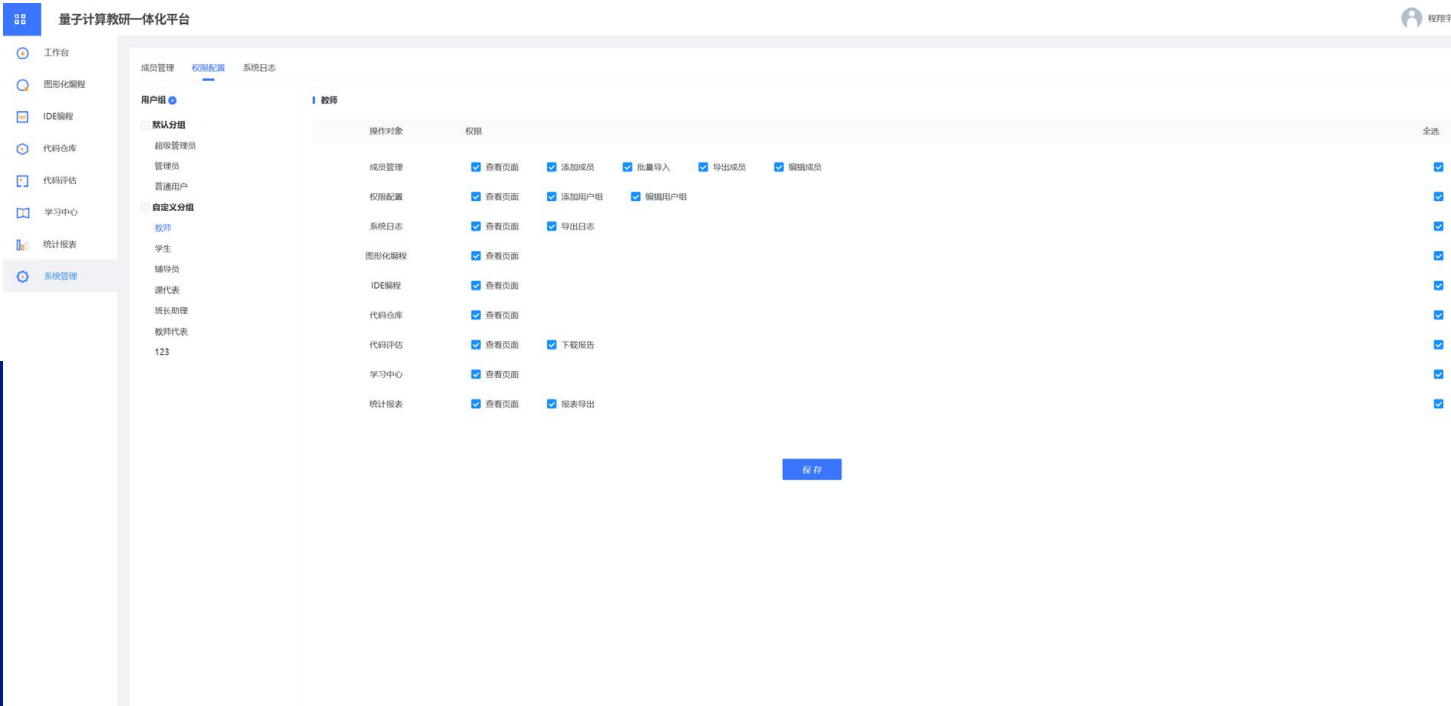
8

>

10 条/页

The platform displays all the departments under the current system in the form of organization tree, where administrators can perform basic user management operations such as creating departments, importing users and managing users.

PERMISSION CONFIGURATION



In the permission configuration module, the administrator can change the member permission configuration, and create an efficient and flexible authority management system for the organization.

SYSTEM LOG

量子计算教研一体化平台

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系统管理

成员管理 权限配置 系统日志

操作日志 登录日志

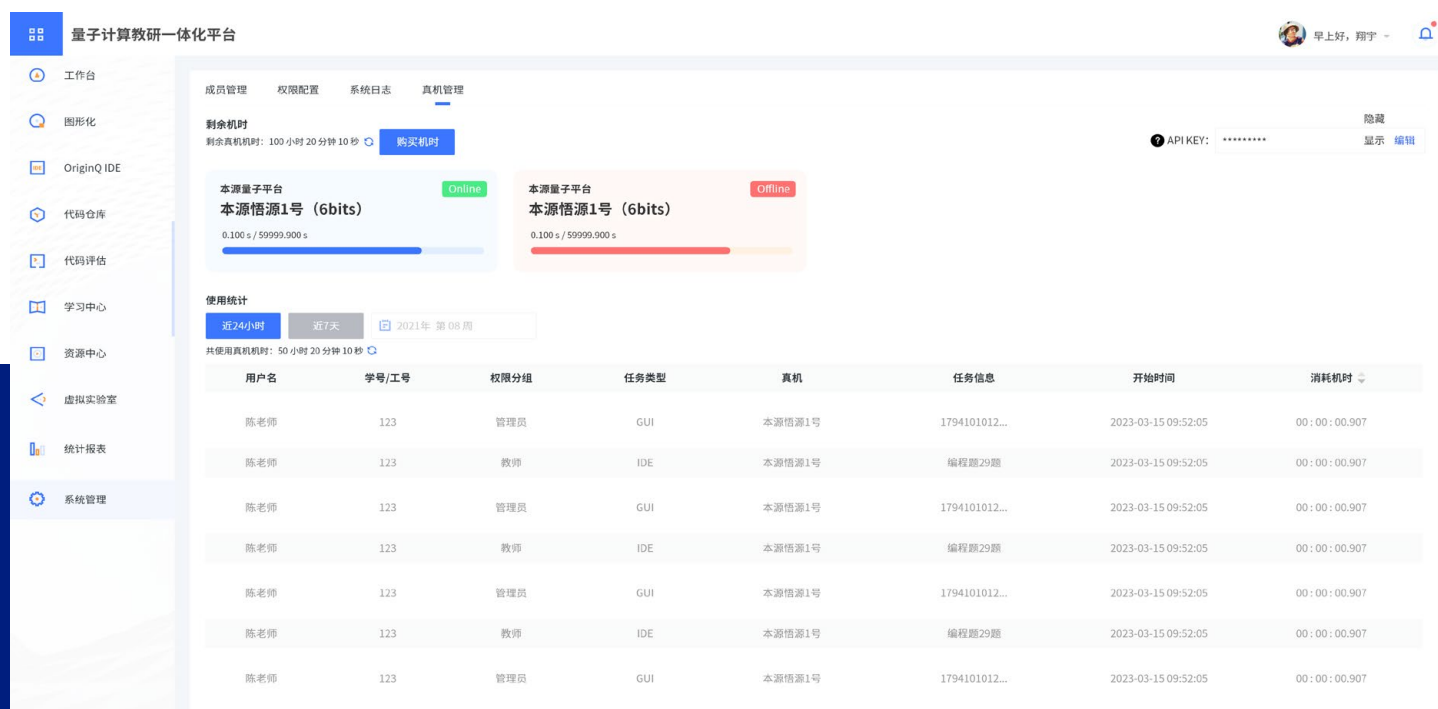
2021-11-01 2022-02-22 全部类型 请输入姓名 导出

操作人	姓名	操作类型	操作时间	操作内容
test00	test	成员管理	2022-02-17 15:56:52	编辑成员
test00	test	成员管理	2022-02-17 15:56:11	添加成员
smz	沈木子	成员管理	2022-02-17 15:50:17	添加成员
lz	李至	代码评估	2022-02-15 16:07:31	下载报告
lz	李至	代码评估	2022-02-15 16:04:05	下载报告
lz	李至	代码评估	2022-02-15 16:03:37	下载报告
cxy	程翔宇	成员管理	2022-02-10 15:40:44	添加成员
cxy	程翔宇	成员管理	2022-02-10 15:39:33	编辑成员
cxy	程翔宇	成员管理	2022-02-10 15:38:18	编辑成员
admin	admin	成员管理	2022-02-08 17:17:20	批量导入

共 562 条 1 2 3 4 5 ... 57

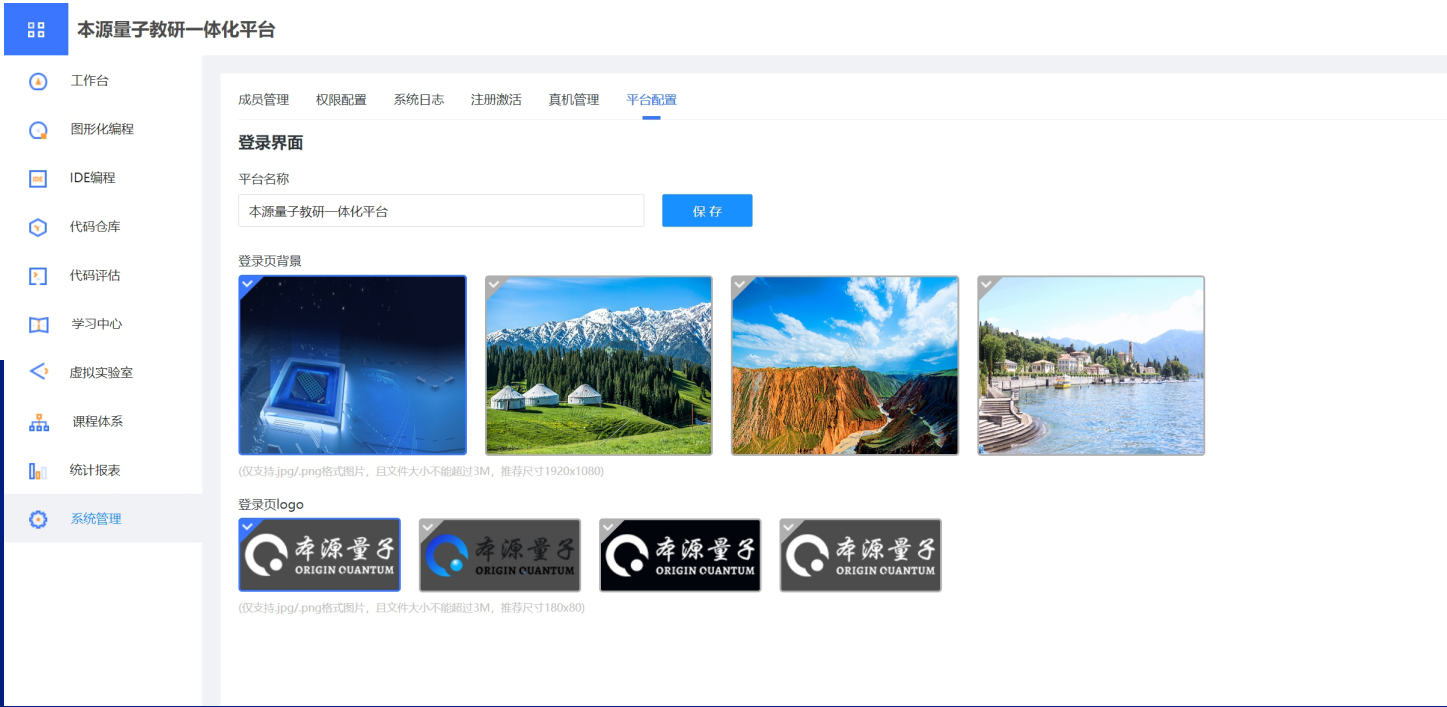
Users with permissions to view system logs can view system user operation records and export excel files for query records.

REAL MACHINE MANAGEMENT



Record the use of real quantum computing services by platform users and check the real quantum computing resource surplus to effectively supervise the use and allocation of real quantum computing resources.

PLATFORM CONFIGURATION



Configure the platform name, login page and logo to achieve personalized page Settings.



平台硬件环境

INFRASTRUCTURE
ENVIRONMENT

INFRASTRUCTURE ENVIRONMENT

序号	HARDWARE PROJECT	HARDWARE CONFIGURATION	NUMBER	SERVICE
1	platform+mysql	CPU:16 cores 2.3GHz memory: 32G DDR4 RECC disk: SAS 1TB	1	Basic backend and database services
2	code repository+ code evaluating	CPU:16 cores 2.3GHz memory: 32G DDR4 RECC disk: SAS 1TB	1	code repository and code evaluating services
3	The k8s cluster	CPU:16 cores 2.3GHz memory: 32G DDR4 RECC disk: SAS 1TB	2	IDE service
4	The Slurm cluster	CPU:16 cores 2.3GHz memory: 32G DDR4 RECC disk: SAS 1TB	1	virtual computing cluster
5	client-side	CPU:16 cores 2.3GHz memory: 32G DDR4 RECC disk: SAS 1TB	1	Local validation testbed functionality



About Origin Quantum

Established in Hefei High-Tech Zone in 2017, Origin Quantum Computing Technology(Hefei) Co, Ltd. (in short as "Origin Quantum") is a leader in China's quantum computing, with the CAS Key Laboratory of Quantum Information being its origin of technology. With a focus on building a quantum computing industry ecosystem, Origin Quantum has been working on independently controllable engineering-oriented quantum computers, developing full-stack quantum computing, and actively promoting the industrialization of quantum computing.

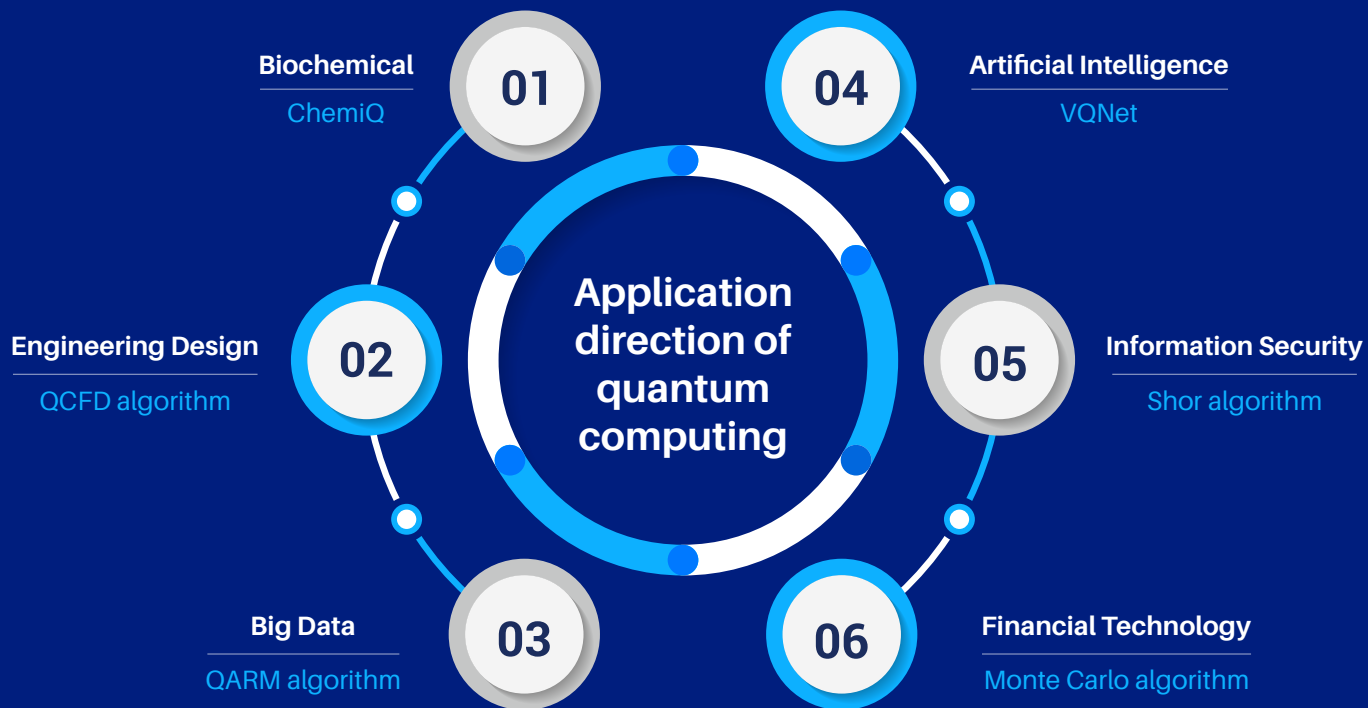
Goal

Allow quantum computing to truly serve the humankind outside laboratories

Vision

Contribute the Chinese power to quantum computing

Research Direction



► Education/Service

Continue to serve quantum computing teaching and cultivate industry talents

► Develop/Upgrade

Constantly improve the level of quantum computing products and explore more application directions of quantum computing

PARTNER INSTITUTIONS



Shanghai Jiao Tong University



Key Laboratory of Quantum Information, CAS



Wuhan University



Huazhong University of Science and Technology



University of Science and Technology of China



Communication University of China



East China Normal University



Central South University



Xidian University



Zhengzhou University



Shandong University



Southeast University



China University of Petroleum (Beijing)



Chongqing University of Posts and Telecommunications



Ocean University of China



Nankai University



Guangdong Ocean University



Anhui University



Tianjin Polytechnic University



Northern University for Nationalities



Nanning Normal University



Nanjing University of Posts and Telecommunications



Wuhan University of Technology



Hubei Normal University



Chaozhou College



Zhejiang Vocational College of Finance



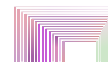
Guangdong Polytechnic of Industry and Commerce



Nanjing Vocational College of Tourism



Non-ferrous metal industry talent center



Cyber Security Science and Technology Museum



Wing shan secondary



Shenzhen Vocational and Technical College



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