

to constantly update and maintain its core competitiveness.

In recent years, the concept of marine ranching has gradually come into being, while the price of the existing autonomous grabbing robot products in the market remains high. The user groups of its products are mainly large enterprises in the aquaculture industry, while most of the small and medium-sized enterprises and individual businesses still maintain the fishing mode of manual fishing, which also corresponds to high labor costs.

Compared with the market, the price of autonomous recognition and operation robots designed by our team is significantly lower than the average price of autonomous grasping robots in the market; Moreover, the autonomous identification and operation robots are highly functional and inexpensive, mainly for small and medium-sized enterprises in aquaculture industry. Considering the huge scale of China's fishery and the abundance of small and medium-sized aquaculture enterprises, autonomous identification and operation robots have broad market space and good application prospects.

Team members have published two papers based on underwater vehicle identification and control, and one patent is being submitted; In the next step, it is expected to further optimize the overall scheme of the underwater robot prototype, apply for invention patents, promote the application of the self-developed underwater robot, and help to improve economic benefits.

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电子墓地——留下你的故事

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Summary. *Everyone faces death. We all need to choose a way to end our lives. This article introduces an electronic graveyard to bury ourselves.*

墓地是埋葬或埋葬死者遗体的地方。每个人都面临死亡。我们都需要选择一种方式来结束我们的生命。本文介绍一个埋葬自己的电子墓地。

中国是一个以汉族为主体的多民族国家，由于各民族所居地理环境、宗教信仰、传统文化等各不相同，从而使丧葬在形式上表现为多样性。其中，土葬和火葬是比较普遍的形式，除此之外，还有水葬、树葬、天葬等形式。在中国，土葬已被火葬逐步取代。国家划定范围作为火葬区，禁止土葬。禁止土葬的主要原因是因为土葬浪费土地资源。火葬虽然更加环保但是也会占用土地。在如今的时代，或许我们可以选择一个更好的方式来埋葬自己。

电子墓地在我的想法中是一个网站。这个网站会有下面几点功能。

第一，进行注册。注册时使用国家提供的唯一标识进行注册。这样保证注册账号具有唯一性。

第二，书写自己的故事。学习历史，没有人会去了解一个普通人的生活。我们了解历史时也是了解主要人物。学习主要事件。好像没人在意一个普通人的一生如何。网站提供了书写自己故事的功能。将自己一生如同书写日记一样保存在这里。同时也可以将自己的一些照片，作品等保存在这里一同保留。发布的时间自己设定。或者死后多少年由系统发布。让我们每一个人原因分享自己故事的人等待一个读自己故事的人。

第三，了解他人的故事。在这里，我们不再是只了解一个个的名人。不再是走过一座座的墓碑。而是真正与一个个逝去的人进行对话。了解他愿意分享的一些。或许我们可以在这里找到所有一切的答案。数据也可以通过分析让我们看到一个个时代的面貌。历史不再是由成功者书写。而是由每一个人用自己的一砖一瓦搭建一个真正的历史高楼。

第四, 进行留言。可以给每一位分享自己故事的人进行留言。或许死后, 所有的话都可以听进去吧。

网站的实现以现在的技术来说并非十分的困难。许多编程语言例如 Java, Python 等都可以进行网站开发。使用 Java 的 SpringBoot 框架或者 Python 的 Django 可以快速简单的进行 web 开发。网站更多需要考虑的还是信息的保密性与安全性, 如何防止信息的泄露。让用户可以放心书写自己真实的故事。

目前这样的网站比较难搜索到, 在中国部分存在的网站主要功能是作为清明扫墓使用。例如天堂网(<http://www.tiantang6.com/>)。这个网站虽然可以进行祭奠。也可以看到逝者简介或者影音。但是这些资料都是逝者死后亲友上传的。而不是自己书写自己的故事。可以说我这种想法的网站目前还找不到。这种形式并未对现实中的丧葬问题有实际的解决。更多的是一种对归宿的理解, 让思想可以流传的更为长远。就如一句话所说, 真正的死亡是世界上再没有一个人记得你。

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面向单板滑雪竞速训练的数字孪生系统

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Summary. *Project study to snowboarding movement process as the main body, aiming at high speed, track complex competitive athletes, based on ali cloud server, the integrated use of motor intelligent precise perception technology, sensor data fusion and synchronous positioning technology, digital technology and the perception and fusion twin, cloud computing, cloud edge techniques and so on, can realize the connection between people and things management, The athletes' movement was intelligently sensed, the filtering algorithm was used to preliminarily process the data, the fastAPI asynchronous framework was used to build the database-cloud-end framework, the snowboarding process motion simulation model was formed, and the digital twin system was developed, that is, the intelligent optimization and visualization tool of the whole process glide trajectory. The construction of a unified quantified data set of movement parameters, the perception and monitoring of athletes' state, is helpful to realize the optimization and analysis of athletes' posture, and increase the scientific nature of training guidance.*

Accurate sensing technology for high-speed motion in complex outdoor environment:

Through snowboarding intellisense technology and snowboarding sport awareness and synchronization technology, data fusion for high speed, track complex competitive athletes, on the premise of not affect athletic performance, high speed, accurate and real-time motion perception data, and the present, on the basis of digital twin and provide data for optimization design of training scientific guidance and track support.

Data-driven digital twin technology:

The web interface of the digital twin system is built based on vue3.0, Javascript and echarts, which can realize the synchronization of data and motion trajectory, and realize the dynamic display and monitoring of trajectory and various kinds of data.

Build data sets and cloud applications based on Huawei Cloud IoT full stack cloud service:

To realize the one-button cloud on the device, to realize the summary and processing of a large number of experimental data with cloud computing as the core, and to develop some cloud applications such as snowboarding digital twin system.

FastAPI asynchronous framework was used to build the database-cloud-side framework: