Profile

马莹莹

软件实习生

教育背景

2016-2020

计算机科学与技术专业

东北大学

成果

- 英语六级
- 微信小程序“迅停车”
- 车辆追踪项目
- GitHub
- 个人博客

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项目经历

基于边缘计算的大型车辆轨迹追踪系统

2018.1-2018.11

作为该项目的负责人，我与四位同伴共同开发了此系统。我们提出了一种基于边缘计算和特征识别的大型车辆轨迹追踪方法。具体地，我们用SVM+HOG特征检测方法获取了边缘设备拍摄的视频中的大型车辆，随后对包含目标车辆的图片进行特征提取。我们采用基于构建颜色字典的颜色识别算法和基于迁移学习的车型分类算法得到了两个识别准确度较高的特征。最后，在不同空间位置的边缘设备将拍摄到的大型车辆的特征信息上传到云端服务器，云端根据特征匹配和时空约束生成轨迹，实现大型车辆的轨迹追踪。在我们共同发表的ICITEE会议论文中，我是二作（指导老师一作）。

“迅停车” 小程序开发

2018.4-2018.6

这个小程序是与停车有关的，主要功能为为司机提供周围停车场有无车位和价格等信息，导航，私家车位主与公司空闲时间段出租车位。作为三人小组中唯一的后端开发者，我新学了Node.js框架并按期完成开发任务。除了完成基础功能，我还按照经纬度分表，尝试了简单的优化。

“DeepInsight” 申请与审核网站

2017.9-2017.11

我和同学共同开发了我们老师医疗软件的申请审核网站。在此之前，我曾作为一个前端参与过另一个web项目，而这次我学习了后端。这个系统曾经上线并投入使用一段时间。

东北大学计算机学院夏令营

2017.8-2017.9

在夏令营中，我学习了51 单片机智能小车的循迹避障，搭建LNMP环境，使用WordPress构建网站，使用爬虫爬取必应照片，初级的图像识别分类，构建Hadoop集群，使用Unity 3D开发VR游戏。 虽然因为时间太短而无法足够深入地学习，但这使我对许多方面有了粗浅的了解并产生兴趣。并且因为表现不错，我获得了夏令营创新奖。

其他项目

1. 基于一套现有的火灾检测硬件设备的火灾预警app，主要功能是与硬件设备通信，这让我了解了安卓开发的相关步骤。
2. 基于FPGA的八位模型机，这加强了我对计算机内部的理解。
3. 用Django开发的个人博客和用tornado写的“个人实验室”也让我更熟悉python-web。

专业技能

后端	用Django和tornado写过web后端，用Node.js Koa写过小程序后端，安卓开发也写过一个小型app。具备开发基本功能和部署的能力。对MySQL数据库操作较为熟练。我很想广泛接触各类语言框架，我相信这会有益于我对其中一项的专精。
前端	写过原生HTML、CSS、JavaScript。擅长通过搜索完成各种需要的功能。具备对前端基础的了解。
其他	对图像处理有所了解，写过KNN图像分类器和基于Inception-v3迁移学习的图像分类器。接触过树莓派、51单片机智能小车、ALINX ALTERA黑金开发学习板。一年前在老师的指导下搭建过Hadoop集群，用Unity 3D开发过小游戏。

关于我

我热爱编程，想成为一名合格的软件工程师。我愿意广泛学习各种新技术以促进自己对其中一项的专精。相比理论，实践使我更喜爱的学习方式，学习一个新技能或精进一个已有的技术会使我非常快乐。我在目前的所有课程设计中拿到了优。我也具备较为丰富的团队合作经验，乐于多交流来更好地解决问题。

Profile

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Software Intern

Educational Background

2016-2020

Computer Science and Technology

Northeastern University in China

Achievement

- CET-6 certificate
- GitHub
- My Blog
- WeChat applets "Xuntingche"
- Vehicle tracking project

Contact

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Project Experience

Large Vehicle Trajectory Tracing Method Based on Edge Calculation

After 2018.1

As the person in charge of the project, I developed this system together with four companions. We propose a large vehicle trajectory tracing method based on edge calculation and feature recognition. Specifically, we use the SVM+HOG feature detection method to acquire a large vehicle in the video captured by the edge device, and then perform feature extraction on the image containing the target vehicle. We use a color recognition algorithm based on building a color dictionary and a vehicle classification algorithm based on migration learning to obtain two features with high recognition accuracy. Finally, the edge device in different spatial locations uploads the feature information of the captured large vehicle to the cloud server, and the cloud generates the trajectory according to the feature matching and the space-time constraint to realize the trajectory tracing of the large vehicle. We published a paper at the ICITEE conference.

WeChat applets "Xuntingche" : University Wechat Applet Contest

2018.4-2018.6

I participated in the WeChat applet contest with two partners. The WeChat applet we developed is related to parking. The main function is to provide drivers with information such as parking spaces and prices for the surrounding parking lots, navigation and the owner of the private parking space and the company rent out the parking space during their free time. My job is Node.js + MySQL backend. In addition to completing the basic functions, I also divided the tables according to latitude and longitude to try simple optimization.

Northeastern University Summer Camp

2017.8-2017.9

In the summer camp, I learned 51 SCM car's tracking obstacle avoidance, building LNMP environment, using WordPress to build websites, using crawlers to crawl Bing photos, image recognition classification, building Hadoop clusters, developing VR games with Unity 3D. Although the time is too short to learn deep enough, I already know about the general content. Because of the excellent performance, I received the Summer Camp Innovation Award.

Other

1. An app based on an existing set of fire detection hardware devices, the main function is to communicate with hardware devices, which let me understand the steps involved in Android development.
2. I also wrote an FPGA-based eight-bit model machine to enhance my understanding of the inside of the computer.
3. Personal blogs developed with Django and "personal labs" written with tornado also made me more familiar with python-web.

SKILL

Backend	I wrote the web backend with Django and tornado, wrote the WeChat applet backend with Node.js Koa, and wrote a small app for Android development. I have the ability to develop basic features and deployments. I am familiar with MySQL database operations. I really want to have a wide range of languages and frameworks. I believe this will be good for my specialization. I am willing to learn new things.
Frontend	I've written native HTML, CSS, and JavaScript, and I'm good at doing all the necessary functions through search.
Other	I have an understanding of image processing, written KNN and image classifier based on Inception-v3 migration learning. I have been exposed to the Raspberry Pi, 51 SCM smart car, ALINX ALTERA development learning board

Me

I love programming and want to be a qualified software engineer. I am willing to learn a wide range of new technologies to promote my expertise in one of them. Compared to theory, practice makes me a favorite way of learning, learning a new skill or getting into an existing technology will make me very happy. I have achieved excellent results in all current course design. I also have a wealth of teamwork experience and are willing to communicate more to solve problems better.