

李意扬

性别：男

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教育背景

2012.9 - 至今 江南大学 物联网工程学院 控制科学与工程 学术硕士(保送)

2008.9 - 2012.7 江南大学 物联网工程学院 自动化专业 学士

外语水平

CET4:597/710, CET6: 510/710, 具有良好的英语听说读写能力。

专业技能

1. 熟悉 C/C++, 汇编
2. 了解 Socket 和 Pthreads
3. 了解 Linux, GDB
4. 了解 Python, TCP/IP 协议栈

项目经验

● 发电机组的故障监控技术研究

项目成员

2012/09-2016/7

这是一个研究生阶段的课题。我的工作是设计故障的容错控制算法，并设计一个半实物 ARM 仿真平台。

容错控制算法采用线性变参迭代算法。仿真平台采用开源的 muduo C++网络库来设计服务器，在 IO 线程中实时获取传感器的数据，然后在线程池中完成坐标变化，矩阵运算和算法迭代，最后将控制量反馈给半实物，构成一个闭环的系统。

在过去的两年中，围绕课题我总共发表 4 篇 EI，实现的半实物仿真平台也可用于其他课题。

● 飞思卡尔杯全国大学生智能车竞赛

项目负责人

2010/01-2012/07

这是一个全国性的竞赛。我的工作是和团队合作制作出一个能自动循迹的智能小车，并竞速。

我负责移植 RTOS 到 ARM 平台，使用线程和线程间通信实现小车各个模块的交互作用，采用有限状态机来描述小车的状态变化。针对工程管理问题，我利用 Scons+Python 完成了一个类似 make 的自动化构建工具，能方便地添加新组建完成编译，并能根据模板生成 IDE 工程文件。同时，我修改了一个开源的三维智能车仿真软件，在其中增加了一个解释器，免去了每次控制算法必须和仿真源码一起编译的过程。

在参与比赛的几年中，带领团队获奖多次。

● 心电监测系统

项目负责人

2012/09-2013/11

这是一个校企合作项目。我的工作是和实验室人员合作，制作一个便携的心电采集的终端。

我负责移植 RTOS 和 lwIP 协议栈 (一个嵌入式 TCP/IP 协议栈) 到 ARM 平台。针对采集心电信息过程中，微弱心电信号易受噪声干扰的情况，我采用了小波滤波算法，并利用微处理器特有的硬件乘法器对算法加速。最终，采集到的心电信号通过 HTTP 协议上传给服务器。

产品最终交付企业，并获得一项发明专利。

获奖情况

2009 | 国家奖学金

2010 | 江苏省电子设计竞赛 | 二等奖

2010 | 全国飞思卡尔杯智能车竞赛 | 二等奖

2011 | 全国飞思卡尔杯智能车竞赛 | 三等奖

Yiyang Li

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EDUCATION

2012/09-2015/06, Institute of Electrical Automation, Jiangnan University

Master

2008/09-2012/07, Automation, Jiangnan University

Bachelor (TOP 5%)

SKILLS

1. Familiar with C/C++ and assembly language;
2. Basic knowledge of Socket and Pthreads;
3. Basic knowledge of Linux and GDB;
4. Basic knowledge of Java, Python and TCP/IP protocol stack;

ENGLISH LEVEL

CET4: 597/710, CET6: 510/710

PROJECT EXPERIENCE

● Research of fault tolerant technology for power generator **Project Member** **2012/09-2016/07**

It is a postgraduate research. My job is to design the fault tolerant control method and make a hardware simulation platform. The fault tolerant control method adopts the LPV iterative algorithm. The server of the simulation platform uses the open source muduo C++ network library. The IO thread is responsible for obtaining the sensor value, and the thread pool is in charge of coordinate transform and matrix computation. The output is returned to the hardware to compose the closed-loop system.

In the past two years, I have published 4 EI, and the hardware simulation platform can be adapted to other similar research.

● Freescale smart car competition **Project Leader** **2010/01-2012/07**

It is a national competition. My job is to work with others to make an automatic tracking smart car and compete for speed. I am responsible for porting the RTOS to ARM processors. The finite state machine is adopted to describe the state change of smart car, and the thread is used by modules to communicate with each other. A tool written in SCons+Python is used to automatically build the project, which is similar to 'make'. I also improve an open source smart car simulation platform by adding an interpreter to it. Users can directly combine the control algorithm with the improved simulation platform.

During the three years, I have won many prizes with my team.

● ECG monitoring system **Project Leader** **2012/09-2013/11**

It is a university industrial project. My job is to make a portable ECG monitoring terminal.

I am responsible for porting the RTOS and lwIP (an embedded TCP/IP stack) to ARM platform. The wavelet filter is adopted to reduce the interference of the noise, and the hardware multiplier of the processor is fully utilized to accelerate the algorithm. The collected data is uploaded to the server by HTTP protocol.

The product is finally delivered to enterprise and obtains a patent.

AWARDS

2009 | National Scholarship

2010 | National Electronic Design Contest, 2nd Prize

2010&2011 | Freescale Smart Car Competition, 2nd Prize, 3rd Prize