龚 韬

Undergraduate
本科

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Education 教育

2009-2013 **B.S(Computer Science)**, *School of Advanced Engineering*, Beihang University.

2009-2013 **学士 (计算机科学)**, *高等工程学院*, 北京航空航天大学.

Job Training 实习

2010-2011 **Assistant of Researcher**, *Institution of Computer Architecture*, Beihang University.

2010-2011 **研究员助理**, *系统结构研究所*, 北京航空航天大学.

2012 **Leader of Electrical Institution**, *ZhongKeYinYi UAV(Unmanned Aerial Vehicle) Co.,Ltd*, Beijing,China.
Designing PCB and Hardware, Porting Software, Writing Hardware Driver, Designing Software Framework, Server Maintenance

2012 **电子部门主管**, *中科银翼无人机公司*, 北京.
负责电路设计，电路板设计加工，操作系统移植，驱动程序编写，设计软件框架。服务器维护

Project Experience 项目经历

2012 **Autopilot System Hardware**, *ZhongKeYinYi UAV Co.,Ltd*.
Selected sensors, desiged and installed autopilot system.
Ported Linux, wrote drivers, fixed bugs.
Design a PWM[1]generator and trimmer on FPGA[2], wrote driver for Linux.

2012 **自动驾驶仪硬件系统**, *中科银翼无人机公司*.
选择传感器, 设计和安装自驾仪控制系统.
移植 Linux, 编写驱动程序, 修复 bug.
在 FPGA[3]上设计制作可编程 PWM[4]生成, 修正器, 并编写 Linux 驱动程序.

2012 **OpenRISC System on Chip(ORPSoC)**.
Ported ORPSoC to DE0-Nano development board.
Ported Linux, drove on board devices.
Fixed bugs and submited patches.

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[1]PWM: Pulse-width modulation.

[2]FPGA: Field-Programmable Gate Array.

[3]FPGA: 现场可编程逻辑门阵列.

[4]PWM: 脉冲宽度调制.

2012 **OpenRISC 片上系统 (ORPSoC)**.

在 DE0-Nano 开发板上移植 ORPSoC.

移植 Linux, 驱动板载外设.

修复的 bug 并提交 patch.

2012 **Server Maintaining**, *ZhongKeYinYi UAV Co.,Ltd.*

Constructed the network infrastructure in company.

Installed and configured server, including web service, version control service, telephone switching and VoIP service, security surveillance system, netfilter firewall.

2012 **网络服务器维护**, *中科银翼无人机公司.*

安装搭建网络基础设施.

搭建和配置服务器, 包括网站服务, 版本库服务, 电话交换和 VoIP 服务, 安防监控系统,Netfilter 防火墙.

2011-2012 **Wind-Solor Hybrid Powered Battery Charger**, *ZhongKeYinYi UAV Co.,Ltd.*

Designed circuit.

Designed and soldered sample PCB(Printed Circuit Board).

Wrote firmware, provided API for UI application.

2011-2012 **风光互补充电池充电器**, *中科银翼无人机公司.*

设计硬件电路和电路板.

加工和焊接样板.

编写固件, 向上层提供编程接口.

2011 **Remote Sensing of Model Planes**, *Fengru Cup.*

Designed hardware and firmware of sensor module using AVR microcontrollers.

Desinged hardware of reciving module, using V-USB open source firmware to send data via USB.

Wrote dll(dynamic link library) on PC to provide data for User-Interface.

2011 **遥控飞机状态遥测**, *冯如杯.*

设计传感器模块的硬件和固件, 使用 AVR 单片机作为主控.

设计接收端的硬件, 使用 AVR 的开源项目 V-USB 使之通过 USB 与 PC 通讯.

在 PC 上编写 dll 用于向用户界面提供数据.

2011 **Research on powersaving of Intel SCC[5]platform**, *Institution of Computer Architecture.*

Study the Intel SCC architecture and RCCE library.

Using RCCE API to adjust frenquency of cores running mpi program to recude energy consumpt.

2011 **Intel SCC[6]功耗管理研究**, *系统结构研究所.*

学习 Intel SCC 结构和提供的 RCCE 库.

使用 RCCE 来动态调整 mpi 程序在每个核心上的能耗.

2011 **Research on directory organization of ccNUMA[7]**, *Institution of Computer Architecture.*

Study source code of RSIM project.

Rewrote RSIM for simulate new directory organization.

Wrote scripts to run benchmarks on simulation automatically.

2011 **ccNUMA[8]目录结构研究**, *系统结构研究所.*

研究学习了 RSIM 项目的代码.

修改 RSIM 的代码用于仿真新的目录结构.

编写脚本用于自动化仿真测试.

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[5]SCC: Intel's Single-chip Cloud Computer microprocessor.

[6]SCC: 英特尔 Single-chip Cloud Computer 处理器.

[7]ccNUMA: cache coherent Non-Uniform Memory Access.

2011 **Research on interconnections architecture of many-core CMP[9]**, *Institution of Computer Architecture.*

Study GEM5 project.

Used GEM5 to simulate designed interconnections architecture.

2011 **众核处理器互连结构的研究**, *系统结构研究所.*

学习的 GEM5 项目.

使用 GEM5 测试设计的处理器互联结构.

2011 **Research on Xen Virtual Machine Live Migration**, *Institution of Computer Architecture.*

Study Xen's developer API.

Wrote program to calculate dirty pages produced by a virtual machine.

2011 **Xen 虚拟机热迁移研究**, *系统结构研究所.*

学习 Xen 开发函数.

编写程序统计虚拟机产生的内存脏页

2011 **High-Performance-Computing's Nodes Managing**, *Institution of Computer Architecture.*

Installed and configured Ganglia and Nagios service on computing nodes.

Wrote php interface for submitting computing jobs and recieving results.

2011 **高性能计算组节点管理**, *系统结构研究所.*

为计算节点配置 Ganglia 和 Nagios 监视服务.

编写 php 界面用于提交计算任务和取回运行结果.

2010-2011 **Robot Vision Controller**, *Beihang Robot Team for Robocon[10] 2011.*

Ported Linux and OpenCV library to S3C2410 board.

Rewrote image capture code to support video format of using camera.

2010-2011 **机器人视觉控制器**, *Robocon[11] 2011 北航机器人队.*

在 S3C2410 开发板上移植 Linux 和 OpenCV 库.

重写 OpenCV 中的图像捕获部分以支持使用的摄像头视频格式.

Publications 出版物

Liu Yuhang, Zhu Mingfa, Wang Jue, Xiao Limin, and *Gong Tao*. "XTorus: An Extended Torus On-Chip Network Topology Oriented for Massive Data Communication". In: *26th IEEE International Parallel & Distributed Processing Symposium* (2012). EI-Indexed.

Award 获奖

2012 4th Prize in Taiwan UAV 2012

2012 台湾无人飞机设计竞赛第四名

2011 2nd Prize in Fengru Cup

2011 冯如杯二等奖

2010 3rd Prize in Beihang Programming Contest

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[8]ccNUMA: 一致性高速缓存非均匀存储访问模型.

[9]CMP: Chip MultiProcessor.

[10]Robocon: The Asia-Pacific Robot Contest.

[11]Robocon: 亚太大学生机器人大赛.

2010	北航程序设计大赛三等奖
2009	2rd Prize in Electronic Innovation Contes
2009	电子创新大赛二等奖
2009	Special Freshman Scholarship
2009	新生优秀奖学金

Computer Knowledges 计算机技能

Languages 语言	C/C++	Archetecture 结构	8086,x86,x86_64
	Pascal		Arm
	CUDA		OpenRISC
	Java		Mips
	Latex		AVR
	SQL		8051
	Verilog HDL		
	Bash		
System 系统	Windows		
	Linux		
	μCLinux		
	FreeRTOS		
	μC/OS		
Software 软件	Altium Designer		
	Quartus		
	Cadence		
	Matlab		
	Mathematica		
	Multisim		
	Proteus		

Personal Interests 个人兴趣

Algorithms 算法	Parallel computing, Machine vision. 并行计算, 机器视觉
Network 网络	Network construction, Server maintenance(Linux). 网络搭建, 服务器维护 (Linux)
Software 软件	Linux, Embedded system, Software porting. Linux, 嵌入式系统, 软件移植.

Hardware	Circuit and Printed Ciruit Board designing, Soldering, FPGA designing, SoC on FPGA.
硬件	电路和电路板设计、焊接, FPGA 设计, FPGA 片上系统
Autonomous System	Robotics, Unmanned Aerial Vehicle
自动系统	机器人, 无人机
Extra	Latex, Piano and piano tunning, Brainwave researching, DIY, Outdoor sports
其他	Latex, 钢琴和调律, 脑电波研究, DIY , 户外运动

Social Works 社会工作

Helped set up BUAA Piano Club, participate in performances, tune and repair the piano

参与成立北航钢琴协会，参加演出，钢琴调律和维护

Contribute code to OpenRISC System on Chip community

在 OpenRISC 片上系统 (ORPSoC) 社区贡献代码

Contribute code to Linux community

在 Linux 社区贡献代码

ArchWiki's Chinese translation

ArchWiki(ArchLinux 在线文档) 中文翻译

Ubuntu's Chinese translation group

Ubuntu 中文翻译组成员