Yuke Yang

Phone: 0755-21519460
E-mail: yangyuke16@mails.ucas.ac.cn
Address: T2, Alibaba Center, Nanshan District, Shenzhen, 518054, China
Personal Website: yang-yuke.github.io

Work Experience

2019.07-Now **Qualcomm**
Position: Modem Software Engineer
Job Description: join chipset off target implementation and debug from L1, L2 or L3, provide technical support and solutions for issues reported from testing team and customer, participate in Qualcomm 5G NR/LTE modem physical, high layer or multi-SIM software design and implementation

Education Background

2016.09-2019.06 **University of Chinese Academy of Sciences**
M.Sc. in Signal and Information Processing
GPA:3.09/4.0

2012.09-2016.06 **Nanjing University of Aeronautics and Astronautics**
B.Eng. in Testing and Control Technologies Instrument
GPA:3.8/5.0(Top 10%)

Scholarship/Awards

2016 Innovation Scholarship of UCAS
2015 The Third Prize Scholarship of NUAA
2014 The Third Prize of the 11th Jiangsu College Students Physics and Experiments Contest
2014 The Second Prize Scholarship of NUAA
2013 The Second Prize of the First NUAA Advanced Math Contest
2013 The Second Prize Scholarship of NUAA
2013 China National Scholarship

Research Experience

2018.03-2018.08 **A High-altitude Balloon-Borne Gondola Attitude Control Program Based on STM32 Controller**
In this project, I cooperated with 2 other engineers to make an embedded computer used for controlling the orientation of a high-altitude balloon-borne gondola and logging its flight data into the memory. I joined into the software design and completed part of the program. Specifically, I transplanted an embedded RTOS, UCOS III onto a processor, STM32H743XI. Then I wrote all the drivers for each part of the embedded computer, including NAND Flash, SPI, USART, FMC, ADC, DMA, CAN etc. I also wrote some tasks of the program. The embedded computer was put into use in a flight experiment and operated normally for the whole process.

2017.12-2018.06 **A Dual-Core Flight Control Computer Based on DSP and FPGA**
In this project, I collaborated with another engineer to make a flight control computer used for controlling a solar-powered UAV. I completed the whole process of hardware design and also wrote part of the software. The hardware is composed of a DSP SOC TMS320C6748, a FPGA chip XC4VLX40, DDR, NAND Flash, SPI Flash, CAN controller, ADC, USART, EPWM module and watch dog. After I finished the PCB layout and made a prototype circuit board, I wrote the drivers for each peripheral, including NAND Flash, SPI Flash, CAN controller, ADC, USART, EPWM, EMIFA, watch dog, etc. To add more UART and SPI interfaces, I also

wrote a UART IP core by referring to the design of 16550, a classical UART chip, and a SPI IP core.

2016.02-2016-05 **A High-altitude Balloon-Borne Gondola Ground Control and Monitor Program Based on LabVIEW**

In this project, I wrote a ground control program used for controlling the orientation of a high-altitude balloon-borne gondola and monitoring its ambient condition. The program was written in LabVIEW. Through reading the packets transmitted back to the ground by the telemeter, it can monitor some parameters of the balloon-borne gondola, such as attitude, position, altitude, velocity, acceleration etc. By displaying these parameters in numeric or waveform format, the condition of the gondola is demonstrated in a more straightforward manner, which helps the experimenting crew a lot. The program can also log the flight data of the high-altitude balloon so that the researchers can extract it from the flash and replay the flight trajectory of the balloon after the experimental equipment is recycled.

Internship

2018.12-2019.06	Qualcomm Wireless Communication Technologies (China) limited
2015.07-2015.08	Nanjing Institute Of Measurement And Testing Technology
2014.07-2014.08	NUAA Mechanical Processing Factory
2013.11-2013.12	NUAA Electrical Engineering Training Center

Publications

[1] YANG Yu-ke, WANG Bao-cheng, Design of SPI Controller System Based on FPGA and EMIFA(In Chinese) [J], Computer Measurement and Control.

[2] ZHUANG Lei, YANG Yu-ke, MIAO Jing-gang, ZHOU Jiang-hua, Design of Ground Monitoring Software for Stratospheric Balloon-Borne Gondola Attitude Control Based on LabVIEW(In Chinese) [J], Measurement and Control Technology.

Miscellaneous

English Proficiency	TOFEL(104), GRE(327)
Research Areas	Operating Systems, Computer Networks, Wireless Communication, Embedded Systems
Skills	C, C++, C#, LabVIEW, Verilog, DSP, ARM, FPGA, etc.
Tools	Altium Designer, Allegro, Multisim, AutoCAD, etc.
Interests	Basketball, Ping-Pong, Badminton

杨宇科

电话: 0755-21519460
邮箱: yangyuke16@mails.ucas.ac.cn
地址: 深圳市南山区阿里巴巴中心 T2 座, 邮编:518054
个人网站: yang-yuke.github.io

工作经历

2019.07 至今 **高通无线通信有限公司**
职位: Modem 软件工程师
工作描述: 参与 L1, L2 和 L3 的芯片仿真实现及调试,
为测试团队及客户所报出的问题提供技术支持及解决方案,
参与高通公司 5G NR/LTE modem 物理层,高层及多卡软件设计与实现

教育背景

2016.09-2019.06 **中国科学院大学**
硕士, 专业:信号与信息处理
绩点:3.09/4.0

2012.09-2016.06 **南京航空航天大学**
学士, 专业:测控技术与仪器
绩点:3.8/5.0(前 10%)

所获奖项

2016 中国科学院大学科创实践创新奖
2015 南京航空航天大学三等奖学金
2014 第 11 届江苏省大学生物理与实验竞赛三等奖
2014 南京航空航天大学二等奖学金
2013 第 1 届南京航空航天大学高等数学竞赛二等奖
2013 南京航空航天大学二等奖学金
2013 国家奖学金

研究经历

2018.03-2018.08 **基于 STM32 控制器高空气球球载吊舱姿态控制软件**
在该项目中, 我与两名工程师合作, 制作了一台用于控制高空气球球载吊篮方向以及将飞行数据记录到存储设备中的嵌入式计算机. 我参与了软件设计并完成了部分程序. 具体来说, 我将嵌入式 RTOS UCOS-III 移植到 STM32H743XI 处理器上. 然后为该嵌入式计算机的每一部分编写了驱动, 包括 NAND Flash, SPI, USART, FMC, ADC, DMA, CAN 等. 我还编写了部分任务. 该程序在一次飞行实验中投入使用并且在整个飞行过程中工作正常.

2017.06-2017.12 **基于 DSP-FPGA 的双核飞控计算机**
在该项目中, 我与一名工程师合作制作了一台用于控制太阳能无人机的飞控计算机. 我完成了硬件设计的整个过程, 并且编写了部分软件. 硬件由 DSP SOC TMS320C6748, FPGA 芯片 XC4VLX40, DDR, NAND Flash, SPI Flash, CAN 控制器, ADC, USART, EPWM 模块以及看门狗组成. 在完成了 PCB Layout 并制作出原型电路板后, 我对每个外设编写了驱动, 包括 NAND Flash, SPI Flash, CAN 控制器, ADC, USART, EPWM, EMIFA, watch dog 等. 为了增加 UART 和 SPI 接口, 我还参考一款经典的 UART 芯片 16550 的设计, 编写了一个 UART IP 核, 以及一个 SPI IP 核.

2016.02-2016-05 **基于 LabVIEW 的高空气球球载吊舱地面监控软件**
在该项目中, 我编写了一个用于控制高空气球球载吊舱姿态以及监测其状态参数的地面控制软件. 我使用 LabVIEW 编写该程序. 通过读取无线数传电台回传的数据, 该程序可监测球载吊舱的一些参数, 如姿态、位置、高度、速度、加速度等参数. 通过以数字或

波形的形式将以上参数展示出来. 可以直观地显示出吊舱的状态. 给实验人员带来极大的帮助. 该程序还可以将高空气球的飞行数据进行记录，以便在实验设备回收时可以将其从 flash 中提取出来并回放气球的飞行轨迹.

实习经历

2018.12-2019.06	高通无线通信(中国)有限公司
2015.07-2015.08	南京计量监督检测院
2014.07-2014.08	南京航空航天大学工程训练中心
2013.11-2013.12	南京航空航天大学电子电气训练中心

发表论文

[1] 杨宇科, 王保成, 基于 FPGA-EMIFA 的 SPI 控制器系统设计 [J], 计算机测量与控制.

[2] 庄雷, 杨宇科, 苗景刚, 周江华, 基于 LabVIEW 的高空气球球载吊篮姿态监控软件设计[J], 测控技术.

其它

英语熟练程度	托福(104), GRE(327)
研究领域	操作系统, 计算机网络, 无线通信, 嵌入式系统
技能	C, C++, C#, LabVIEW, Verilog, DSP, ARM, FPGA 等
掌握工具	Altium Designer, Allegro, Multisim, AutoCAD 等
兴趣	篮球, 乒乓球, 羽毛球