李 华康

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中国科学院大学 电力电子 • 硕士 1997-11-01

武汉大学电气专业本科，保研至中国科学院电工研究所攻读电力电子专业硕士。有扎实的电气和电力电子专业知识基础，擅长分析物理模型并有较好的数学应用能力。目前的研究涉及电动汽车相关技术，对电动汽车最新技术需求有一定了解。热爱计算机和网络技术，熟悉 Python 和 Java 语言编程，熟悉 Linux 操作系统。有一定的 ESP 32 和树莓派的开发和使用经验。热衷于学习新知识（跨学科、交叉学科），并有良好的学习吸收能力，积极分享和传播知识。

教育背景

现在	**中国科学院大学** • 中科院电工所
2019.09	电力电子 • 工学硕士
2019.06	**武汉大学** • 电气与自动化学院
2015.09	电气工程及其自动化 • 工学学士

知识体系与技能

专业知识 掌握电气工程基础、电力电子技术、电磁兼容（EMC）基础、功率半导体器件建模与应用；
熟悉半导体器件物理、传热学相关知识。

专业技能 软件: Matlab Simulink, Ansys HFSS, Ansys Icepak, COMSOL, LTspice, Kicad, Altium Designer, SOLIDWORKS 等;
实验: 功率模块双脉冲测试，电机控制器大功率实验。

计算机相关 熟悉 Python, Matlab m 语言, Java, C 编程;
熟悉 SSH, Git, Vim, Shell 等工具的简单应用;
有 2 年 Linux 操作系统使用经验;
熟悉 LaTex 论文排版，Matplotlib 数据可视化。

语言 **英语** — 读写（优良），听说（日常交流）
日语 — N3 通过，简单阅读

个人项目

- 基于 ESP32 的无线双脉冲驱动器: Arduino, html, css。
- 利用 Python、Shell 等帮助管理系统、执行办公任务等。
- 技术文档和学习笔记：SVPWM、数据结构与算法、半导体器件物理笔记

科研项目

- 电动汽车电驱动器先兆健康管理（PHM）：先兆参数提取、人工智能。
- TSEPs 方法功率半导体结温监测：半导体物理、双脉冲实验。
- 基于信息融合的功率半导体结温估计：半导体、传热、数据融合、卡尔曼滤波。
- 基于有限差分法的 IGBT 热电耦合模型：半导体物理、电路、有限差分。
- 发表 3 篇论文，其中 SCI 论文 1 篇，第一作者 1 篇。

获奖

- 全国大学生数学竞赛二等奖
- 武汉大学三好学生
- 武汉大学曾宪梓奖学金
- 武汉大学暑期社会实践一等奖

Weitian LI

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Ph.D. in Physics Shanghai Jiao Tong University (SJTU) 1991 Sept. Shanghai

Highly-motivated Ph.D. in Physics (radio astronomy) with good foundations of math and statistics. Proficient in data modeling and analysis, and enthusiastic about computer and network technologies. With 10 years experience in Linux and BSD, skilled in Shell, Python, and C programming. Passionate about open source and share multiple projects on my GitHub. Meanwhile a DragonFly BSD operating system developer and a contributor to several other open source projects.

Competences & Languages

Operating Systems	Linux (10 years), DragonFly BSD & FreeBSD (7 years)
Programming	Python, C, Shell, R, Tcl/Tk
Tools	SSH, Git, Make, Tmux, Vi, Ansible
Data Analysis	R, Pandas; Matplotlib, ggplot2; Keras, Scikit-learn
Web Development	Flask, JavaScript, jQuery, Bootstrap
Languages	**English** — reading & writing (good); listening & speaking (conversant)

Education

September 2019 September 2013	School of Physics and Astronomy, **Shanghai Jiao Tong University** Ph.D. in Physics
June 2013 September 2009	Department of Physics and Astronomy, **Shanghai Jiao Tong University** Bachelor's Degree in Applied Physics

Computer Skills

- DragonFly BSD operating system developer: 200+ code commits; kernel and system utilities; participate in discussions and anwser questions in mailing lists and the IRC channel.
- Use Ansible to manage a VPS running DragonFly BSD that serves personal email, authoritative DNS, website, Git, IRC, etc.
- Built and administrate the workstations, a 4-node computer cluster, and network facilities for the team.
- Participated in building and testing the SKA high-performance cluster prototype (1 login node + 1 data node + 4 computing nodes) in Shanghai Astronomical Observatory.
- Designed and developed the whole website (Django, Bootstrap, jQuery) for "The 1st China–New Zealand Joint SKA Summer School" in 2014.

Personal Projects

- `atoolbox`: (Python, Shell) Various tools collected over the years, to help manage systems, do daily tasks, analyze data, etc.
- `dfly-update`: (Shell) A simple tool to update a DragonFly BSD system.
- `openrcs`: (C) Enhance `OpenBSD RCS`, to make it compatible with `GNU RCS`.
- `fg21sim`: (Python) Simulate the low-frequency radio sky maps.
- `cdae-eor`: (Python, Keras) Use a Convolutional Denoising Autoencoder (CDAE) to separate the faint EoR signal.
- `chandra-acis-analysis`: (Python, Shell, Tcl) Semi-automate utilities for analyzing X-ray astronomical data.
- `resume`: (LaTeX) The template and source files of *this resume*.

Research Achievements

- Developed the low-frequency radio sky image simulation software: `FG21sim`.

- Developed a suite of utilities to semi-automate the X-ray astronomical data analysis: `chandra-acis-analysis`.
- Separated the faint cosmological EoR signal along the frequency dimension using a Convolutional Denoising Autoencoder (CDAE).
- Classified the radio galaxies in the FIRST survey according to morphologies using a Convolutional Neutral Network (CNN).
- Significantly improved the modeling of radio halos, and integrated the instrumental effects of radio interferometers into the simulation pipeline.
- Improved the background modeling in X-ray spectral fitting achieved more accurate and robust fitting results.
- Published 2 first-author and 8 co-authored SCI papers.

Internships

August 2018 – April 2018 | Data Engineer @ Leadvisor Technology Inc. (startup company)

- Search and scrape product and advertising data from Amazon web (Python, Requests, BeautifulSoup).
- Deployed the Airflow server and database to periodically retrieve product sales and advertising data from Amazon.
- Developed the website (Flask, jQuery) to help customers to optimize their advertising campaigns on Amazon.

September 2013 – July 2013 | Web Developer @ 97 Suifang (startup company)

- Developed the back-end (Django) to support user registration, data storage and search.
- Developed the front-end (jQuery, AJAX) to visualize the temporal variations of a patient's examination indicators.

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