

Rui Wang



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PROFILE

- Skilled in Python and C, with hands-on experience in software development and REST-API integration.
- Proven ability in applying AI models (with Pytorch) to real-world datasets, including power systems and communication networks.
- Familiar with Linux systems, HPC and experienced with Git workflows.
- Adept at collaborating across disciplines in innovative, international, and agile environments.

Education

RWTH Aachen University	Oct 2021 - Oct 2025
<i>Master of Science in Electrical Engineering</i>	<i>Aachen, Germany</i>
Chongqing University	Sep 2013 - Jun 2017
<i>Bachelor of Science in Communication Engineering</i>	<i>Chongqing, China</i>

PROFESSIONAL EXPERIENCE

Software engineer internship — Grid optimization IAV GmbH	Feb 2024 - Aug 2024 Gifhorn, Germany
• Designed and implemented Python-based genetic algorithms, integrating RESTful APIs (with Office documents, text and CSV files) and real-time system models. • Optimized forecast models in the field of e-mobility, heat transition, and renewable energies using Git workflows for version control and collaboration. • Built heatmap visualizations and experiment automation workflows using Python and data processing tools.	

Electrical engineer Beijing Interconnection communication Equipment CO., LTD	Apr 2018 - Oct 2020 Guangzhou, China
• Responsible for repairing fiber optical repeaters from communication base stations and switches. • Use various testing instruments and soldering tools to inspect and measure circuits. • Hands-on experiments to characterize the performance of power converters and inverters. • Collaborated with cross-functional teams to diagnose and solve problems in communication system.	

EDUCATIONAL PROJECTS

Master Thesis: Development of artificial intelligence models for power quality investigation	Oct 2024 - May 2025
• Collect power quality disturbances from MATLAB Simulink and synthetic data. • Use Artificial intelligence algorithms (Pytorch) to detect various power quality disturbances and classify them using real-time data. • Employed Python with HPC to build machine learning models, such as SVM (support vector machine), and CNN (convolutional neural network).	

- Seminar: Machine learning for congestion control schemes** Apr 2023 - Jul 2023
- Literature research on congestion controls with machine learning and traditional methods.
 - Familiar with the potential and shortcomings of machine learning methods for wireless communications and networks.

- Digital energy defense laboratory** Oct 2022 - Feb 2023
- Utilized Hydra to bruteforce the switch password.
 - Employed Python to set up of intrusion detection system and attack the system of the other group.

- Bachelor Thesis: Wideband balanced bandpass filter with common-mode suppression**

- Analyze and design wideband balanced bandpass filters.
- Simulate and analyze designed circuits with ADS software.

SKILLS

DevOps & CI/CD: Git, GitLab CI/CD, REST APIs

Programming software: C/C++, SQL, Python, Bash, Java(basic)

Electronic design software: MATLAB, PSCAD, Altium Designer, Multisim, ADS

Languages: Chinese (native), English (C1), German (B1)