

Rui Wang



📍 Aachen, Germany ✉ rui.wang1@rwth-aachen.de

☎ +49 (0)15906479115

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

Master of Science in Electrical Engineering

Oct 2021 - Oct 2025

Aachen, Germany

Chongqing University

Bachelor of Science in Communication Engineering

Sep 2013 - Jun 2017

Chongqing, China

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)