

Senior Software Engineer (Solar converter)

Job title:	Senior Software Engineer
Department:	Railway Technology Department
Location:	Birmingham
Hours of work:	37 hours a week
Contract:	Permanent
Salary:	Competitive
Working hours:	Hours: 8:00 – 17:00 Mon -Thurs and 08:00 -14:00 on a Fri (1hour lunch).
Reference:	10-11

About Zhuzhou CRRC Times Electric UK Innovation Center

Zhuzhou CRRC Times Electric UK Innovation Centre (TEIC) is a subsidiary of the CRRC Corporation Limited, the world's leading propulsion and control systems provider in the rolling stock industry. Our mission is to design, develop and produce state of the art power electronics systems and components for automotive electric vehicles, rail, and renewable energy sectors. Please Follow us on LinkedIn or visit <https://teic.crrczic.cc/> for further details.

Overview of the role:

We are looking for a Senior Software Engineer mainly working on our new solar inverter projects. This role will be responsible for the optimizing software for string photovoltaic inverters using cutting-edge algorithms for power electronics controls.

- Specialized in software design for grid-tied inverters and debugging;
 - Collaborates with the internal hardware team to define, design, and debug applications for the control of power electronics systems circuits and components;
 - Implement key protocol, signal processing, and numerical algorithms with very tight time, latency and energy budgets;
 - Implements firmware modules including communication stacks, diagnostics, real-time operating systems (RTOS), bootloaders, and Stateflow;
 - Conducts thorough testing of firmware software at unit and module levels;
 - Coordinates the development of new features with agile methodology;
 - Identifies and resolves a diverse array of challenges through analytical thinking and innovative problem-solving;
 - Designs and evaluates prototypes and proof of concept control algorithms adhering to relevant norms and standards;
 - Documentation of design work;
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Other responsibilities

- Budget control on prototype development;
 - Actively collaborate with other groups and colleagues in the same group on current projects, organize relevant meetings, follow up and timely report on key issues;
 - Establish and maintain effective working relationships with core technology members to ensure efficient and rapid delivery of technical information within the department;
 - Commitment to Health & Safety in the workplace;
 - Complete other work assigned by line manager;
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We would like you to have:

- Strong understanding of power electronics principles and control theory;
 - Good understanding on three-phase two-level or multilevel DC-AC inverter;
 - At least 2 years' experience in string tens of kW photovoltaic converter design, or at least 3 years' experience in high efficiency high-power onboard EV charger;
 - PhD degree with at least 3 years related experience, or a Master degree with at least 5 years' experience
 - Strong dissertation writing skills;
 - Proficiency in programming languages such as C/C++, Python, and MATLAB/PLECS for algorithm development and implementation;
 - Proficient in utilizing simulation tools like MATLAB and PLECS;
 - Technical expertise in micro-controller utilization for Power Electronics applications (C2000/RH850/S32Kx/AURIX);
 - Knowledge of version control tools such as Git;
 - Familiar with relevant standards and laws and regulations, and have deep understanding and practical experience;
 - Attention to the details in work to ensure accurate job information;
 - Hardworking, passionate, strong sense of professionalism and responsibility;
 - Excellent communication and coordination skills;
 - Strong resistance to stress and flexible handling of urgent tasks at work;
 - Excellent time management;
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Benefits

TEIC is a great place to work with opportunities for professional and personal development. Our benefits include:

- 25 days holiday + 8 bank holidays
- Holiday allowance increase with length of service
- Free lunch Monday to Friday
- Bupa healthcare
- Healthcare assessment and vouchers
- Free on-site car parking
- Contributory Pension
- Life assurance
- Cycle to work scheme
- Company sick pay
- Professional Membership fees paid e.g. CIPD, IEEE
- Family Friendly policies

To find out more about TEIC visit www.teic.crrczic.cc.