

Graduate Control Systems Engineer- 12 Months Fixed Term Contract

Environmental and Combustion Controls (ECC) is part of Automation and Control Solutions (ACS), a \$16.6 billion strategic business group of Honeywell. ECC provides integrated product solutions in energy management, heating and heating processes, ventilation, cooling and refrigeration, air purification, zoning, humidification, air conditioning, water controls and processes, electrical devices and systems, lighting control, switches, sensors and controllers. Our technologies are found in more than 150 million homes, 10 million buildings, and thousands of manufacturing plants around the world. Customers include original equipment manufacturers, commercial, homeowners, contractors, retail, trade building managers, consulting engineers and distributors. To learn more about Honeywell Environmental and Combustion Controls, please visit <http://customer.honeywell.com>.

Trend Control Systems Limited is one of the world's leading Building Energy Management Systems manufacturers, with a worldwide distribution and support network covering over 50 countries. Its fully integrated control solutions are able to meet the most complex requirements of modern buildings.

Qualifications

BSc or MSc in Control Systems Engineering.

e.g. Manchester University MSc in Advanced Control and Systems Engineering.

Knowledge and Experience gained should include :-

- Physics A level. (Essential)
- General understanding of the practical application of both classical and modern control techniques such as :-
 - Design and tuning of PID control algorithms. (Essential)
 - Non-linear control.
 - Fuzzy control.
 - Statistical modelling.
 - Parameter estimation.
 - Self-tuning and adaptive control.
 - Model based predictive control.
 - Optimisation.
 - Intelligent Control.
- Embedded software development using C and/or C++ languages. (Essential)
- Matlab and Simulink. (Essential)
- PC Software development in C#.

Personal Qualities

- Enthusiastic.
- Self-motivating.
- Interest in solving practical problems with real plant.
- Interest in green / energy issues.
- Ability to communicate ideas, designs, results etc visually and verbally.

Job Description for Intern Year

Practical development of control and optimisation software for advanced building control systems.

- Analyse data collected from different buildings and assess control problems.

- Develop the PID control algorithm used by Trend to improve performance and robustness. e.g. Improvements in integral de-saturation in order to avoid overshoot.
- Understand the control performance assessment and auto tuning code written in the labs.
- Build this into controller firmware and test in buildings.
- Onward develop if necessary.
- Compare the performance of some different control techniques such as PID, Fuzzy and Non-linear PI control.
- Gain an understanding of Matlab code for IQCEO optimisation algorithm.
- Collaboration with Honeywell Prague labs.

As an Equal Opportunities Employer, Honeywell is committed to a diverse workforce.