

Software Engineer – C# / WPF / Mathematical Problem-Solving**Company Overview**

Global Inkjet Systems (GIS) is a world leader in industrial inkjet technology, developing advanced software, electronics, and components for high-performance digital printing. Our solutions drive cutting-edge applications, including high-speed packaging, direct-to-shape printing, 3D printing, printed electronics, and advanced materials deposition.

Inkjet printing is a highly complex and multi-disciplinary field, requiring expertise in fluid dynamics, signal processing, precision motion control, and real-time data processing. Our software plays a critical role in controlling high-precision printheads, optimising drop placement at microscopic scales, and ensuring seamless integration with industrial automation systems.

Role Overview

As a Software Developer at GIS, you will develop high-performance software solutions in C# and .NET, working on projects that demand precision, efficiency, and real-time processing. You will be responsible for designing WPF-based user interfaces, implementing REST API architectures, and optimising multi-threaded and parallel processing algorithms.

This is an opportunity to apply mathematical modelling, computational algorithms, and physics-based problem-solving to real-world industrial challenges. Your work will directly contribute to advancing drop placement accuracy, motion control algorithms, and high-speed image rendering—key factors in the next generation of digital printing technologies.

This role is suited to candidates with a strong mathematical and computational mindset who enjoy applying problem-solving techniques to complex engineering challenges.

Key Responsibilities

- Develop and maintain software applications using C# and .NET, ensuring efficiency, scalability, and robustness.
- Design and implement WPF-based user interfaces, focusing on usability, performance, and complex data visualisation.
- Build and integrate REST API client-server applications, ensuring secure and efficient communication.
- Work with thread-safe and parallel programming architectures, including multi-threading and asynchronous processing.
- Apply mathematical modelling, numerical methods, and physics-based algorithms to enhance printhead control, ink flow dynamics, and image processing.
- Collaborate with engineers and scientists to optimise real-time data processing and high-precision motion control in industrial printing systems.
- Manage technical specifications and requirements across multiple projects, meeting deadlines effectively.

Why a Mathematics or Physics Background Matters

Inkjet printing is more than just software development—it's about understanding how tiny droplets of ink behave at microsecond timescales. At GIS, our software controls high-speed industrial printheads, requiring precision in:

- Fluid dynamics – modelling how ink moves through microscopic nozzles.
- Signal processing – ensuring accurate drop placement and colour reproduction.
- Algorithm optimisation – improving image rendering, motion control, and real-time corrections.

A background in mathematics or physics provides the critical problem-solving and analytical skills necessary to develop and refine these complex systems.

Essential Skills & Experience

- Degree in Mathematics, Physics, Engineering, or a similar numerate discipline.
- Strong proficiency in C# and the .NET framework.
- Extensive experience in WPF UI development, ideally using MVVM design patterns.
- Knowledge of network programming (HTTP, TCP/IP, Sockets) and data transmission protocols.
- Strong analytical and problem-solving skills, with a methodical approach to software design.
- Ability to work independently and manage complex technical challenges.
- Enthusiasm for technology, with evidence of self-directed learning and technical development.

Desirable Skills & Experience

- Experience with scientific computing, numerical methods, or algorithm optimisation.
- Knowledge of signal processing, image processing, or inkjet printing technologies.
- Familiarity with control systems, simulations, or computational modelling.

Benefits

- Competitive salary with structured pension contributions.
- Private health insurance and life insurance.
- Company-funded kitchen with snacks, drinks, and fresh fruit.
- Company-funded social events and charity initiatives.
- 25 days annual leave, plus a cycle-to-work scheme.
- A collaborative and intellectually stimulating work environment, where scientific thinking meets real-world engineering.
- Free Tastecard Membership for restaurant and entertainment discounts.

If you have a passion for mathematical problem-solving, software development, and high-performance engineering, this is a unique opportunity to apply your skills in an industry that combines physics, precision engineering, and real-time computing to push the boundaries of digital printing.