

# Signal/Image Processing Engineer

## INTRODUCTION

Nearfield Instruments (NFI) brings together the most creative minds in science and technology to develop a revolutionary high throughput atomic force microscopy system enabling atom-scale resolution 3D metrology at industry-level throughput, based on three pillars:

- Unrivaled measurement speed;
- Parallelization capability;
- Advanced measurement modes.

At NFI, we design, develop, integrate, market and service these advanced metrology machines, which enable our customers - the world's leading chipmakers – to increase the production yields, and thus, functionality of their microchips, which in turn leads to smaller, more powerful consumer electronics. We aim to develop leading edge metrology systems, to be installed at the customer site, within specifications, on time, with quality exceeding the customer's expectations.

## WHAT WILL YOU BE DOING?

Your work covers the development of physical, optical and mathematical models and methods required to infer physical model parameters from measurement data. Relevant new metrics and algorithms, as well as new measurement functions, with optimum performance characteristics using the raw acquisitions are identified, designed and implemented.

You will propose and develop new or improved signal processing algorithms for parameter estimation, to enhance the semiconductor metrology performance beyond the current limits.

You will communicate crystal clear on the signal processing solutions and parameter estimation algorithms to stakeholders, without omitting the essentials.

You contribute to technical product roadmaps and generate intellectual property protecting NFI products.

You will collaborate with systems engineers, software and firmware developers, electrical engineers, hardware designers, and project management to guide the final algorithms through final implementation, into testing, and out to field production. You will report directly to the CTO.

## WHAT DO WE REQUIRE OF YOU?

The candidate we seek ideally has sufficient experience as a Signal/Image Processing engineer in a working environment which, in terms of complexity, is in line with that of NFI. Experience in the field of semiconductor equipment is a plus. Furthermore, you need to recognize yourself in the profile as described below.

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**Requirements:**

- A Ph.D. or M.Sc. in Engineering or Physics;
- Excellence and proven experience in signal, image processing and in code development;
- Experienced in signal processing and algorithm design. Good MATLAB and Python skills and experience;
- Simulink skills are required with ideally some subset of FEA, CAD, Thermal and other modeling tools;
- Affinity with statistical parameter estimation techniques, amplitude and frequency modulation;
- Drive creative solutions -within the bigger picture- with the product and customer in mind;
- Ability to explain complex image-processing algorithms in a crisp way, without omitting the essentials;
- Decisive and self-initiating in an ambiguous (experimental) environment;
- Team worker;
- Pragmatic approach and pro-active attitude, with result focus and a 'can do' spirit;
- Strong written and oral communication skills and a commitment to achieving results on time;
- You have a good command of the English language, both written and spoken.

**HAS THIS VACANCY AROUSED YOUR INTEREST?**

Then please feel free to apply on this vacancy! Nearfield Instruments offers an exciting, fast-paced working environment where you will be able to shape the system and the company.

For further questions don't hesitate to contact us.

Keywords: parameter inference and signal processing, image processing, optimization, statistics, Amplitude and Frequency Modulation, Lock-in amplifier, Advance FFT analysis, and physical calibration

**Send your application to:**

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