

Mechatronics Design 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?

As a Mechatronics Design Engineer, you will be involved in the design and test of mechatronic systems and control systems, preferably in the area of nanopositioning scanning stages. The job requires a strong technical individual contributor to:

- Derive lower level requirements and designs for mechatronic positioning and measurement devices;
- Generate models or simulations in Advanced Simulation in MATLAB and Simulink that analyze expected Performance which can be used to drive a multi-discipline team to an optimal solution;
- Dynamic modelling of Module response to external disturbances;
- position and presence sensors operations and development;
- Design and implementation of servo control systems;
- Technically own and drive the decisions necessary to complete the tasks
- Work with designers from supporting engineering disciplines in order to converge on an overall design solution;
- Interface with module architects to derive requirements for the sub-modules;
- Write performance specification documents at sub-module level and feed sub-budgets down to the lower levels;
- Create sub-module level test protocol docs and subsequent test result analysis to prove sub-module and sub-system level performance specs are met;
- Understand and be able to communicate the implication of sub-module level errors on higher module level performance and on other sub-modules;
- Clearly communicate technical performance in both written and verbal presentations to stakeholders;
- Take responsibility for the deliverables to the project: on time delivery to specified performance at the right quality;
- Create and manage plans for deliverables to the project, ensure alignment with the project plan.

You will be trusted to recommend design changes or substitution of materials when appropriate. You will also advise users of appropriate actions to correct malfunctions and may recommend changes in user procedures. In this role you will travel for about 5 percent of your time. You will report directly to the CTO.

WHAT DO WE REQUIRE OF YOU?

The Mechatronics Design Engineer we seek ideally has minimum MS in Mechanical or Electrical Engineering with an emphasis on mechatronic systems (preferred) / mechanics / dynamics is required. Experience in system design and analysis is required. A second degree in physics, mathematics, or other engineering disciplines is highly desirable.

Furthermore, you need to recognize yourself in the profile as described below.

You have:

- A wide experience in mechatronics systems design;
- Experience in building practical experimental setups;
- Experience in the following areas are required: MATLAB and Simulink, servo design / tuning, actuator design / selection, robot control;
- Experience in the following areas are a Plus: CAD, thermal analysis, opto-mechanical mounting, adhesives, materials, FEA, or other modeling tools;
- Experience in measurement analysis;
- Experience working in a multi-disciplinary engineering environment, with suppliers and co-developers, to ensure timely realization of competitive, high precision, complex components and assemblies;
- Be a demonstrated “team player” with strong interpersonal skills and a quality orientation;
- Be able to quickly acquire technical knowledge from documentation and on-the-job training, and be capable of thoroughly investigating technical issues (analytically and hands-on in a lab or cleanroom environment);
- Strong written and oral communication skills and a commitment to achieving results on time.

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.

Send your application to:

Mrs. Sharita Nandpersad

Email address: sharita.nandpersad@nearfieldinstruments.com