Advanced Algorithm Engineer

Location: Copenhagen, Denmark.
Full-time on-site position (no remote work)
Travel: Expected <20% of work time
Reports to: Head of Software Development, Head of Engineering
Starting date: ASAP

Would you like to help us revolutionise the development and manufacturing of electronic, photonics, and optics industries? Welcome to ATLANT 3D – we invite you for an amazing journey where you will be a part of a team working towards disrupting 60 years of micro and nanofabrication technologies and systems. We offer you a once-in-a-lifetime experience. What we develop is unique, and we are incredibly excited to make a difference.

We are looking for an Advanced Algorithm Developer/Engineer for its software engineering department to lead the development of algorithms for real-time control of the processes for fabrication of advanced semiconductors, photonics, and optics devices based on the company's processing of a multiplicity of materials delivered in liquid, gas, and a combination of both, while the substrate is in continuous movement.

You will join a highly skilled and dedicated team of engineers and scientists and become a key participant in developing innovative solutions within nanotechnology. Cross-functional collaboration is the key to our success. We believe in combining theory and simulation with hands-on prototyping and testing.

What is the job about

The job requires critical thinking to solve computational problems by researching, designing, and testing sequences for the ongoing enhancements to the technology in order to meet the ever-evolving feature miniaturization of the applications in the markets served by the company's technology, consequently ensuing the high quality of the multidimensional devices fabricated in the nanometer scale. As an algorithm developer, your responsibilities include working to implement your algorithms and then to analyze and modify them as needed. You must first identify the goals and then work to achieve specific results. In this career, you will collaborate with members of the R&D, engineering, process and applications teams to create theories and corresponding algorithms, then perform research and tests until you have designed an efficient algorithm. The key areas of expertise include, but not limited to: algorithms for real time control of fluids in gas and liquid form, nanometer scale stage movements, data sampling, code writing in C++. The successful candidate ideally has expert knowledge in more than one of these areas and has sufficient knowledge and expertise to understand all involved system technologies and effectively work with his cross functional peers.

The position reports to the Head of Software Development in the Product Development department. In this role, you will be responsible for developing, tracking and maintaining the development of algorithms, while creating project plans and executing projects on-time and on budget. This pivot role in the software group will also actively participate in other activities inclusive of R&D, process, and applications.

The Advanced Algorithm Developer/Engineer is expected to be a driver of innovation drawing on input from across the departments that provide technology elements for the industrialization of the company products. As such this also includes the drive toward enhancing the company IP portfolio as defined by the company's IP executive committee.

What will be your responsibilities?

Your overall responsibilities:

- Develop and implement machine control algorithms to ensure the high quality of the structures fabricated.
- Develop and execute plans according to the agreed objectives, budgets, and timelines. Risk analysis and possible alternatives must be included in each plan with clear criteria for success, sense of urgency must be shown in the project execution.
- Work with R&D, Engineering, and other software teams, to integrate the developed algorithms into product development plans.
- Test and improve the algorithms to ensure implementation in products control software in a timely matter to meet the Time-to-Market needs.
- Identify any data missing in order to accurately implement the algorithms that enable high quality fabrication in the nanometer scale.
- Submit innovative ideas for patent or trade secret applications.
- Support Applications and Engineering teams in the factory as required when customer issues that affect the quality of the fabricated structures does not to meet company objectives

Talent & professional capabilities

- MA or MS in mathematics, computer science, programming, mechanical engineering, electrical engineering, or related fields.
- Algorithm development in complex multivariable hardware and chemical processing systems with at least 7 years of industrial work experience with the aptitude to manage your activities necessary to develop the controls used in processing devices with the company's systems.
- Proficiency in programming in C#/C++ is a must.
- Experience/knowledge of programming in Python is beneficial.
- Experience in designing and programming simulation tools for algorithms, a benefit.
- Experience with statistical signal processing is a must.
- Familiarity with semiconductor processes, equipment, and controls is an advantage.
- High level of general knowledge of relevant technologies and ability to communicate clearly with technology experts in their fields of expertise.

- Proficiency with Microsoft office is a must.
- Results driven to create a sense of urgency for the algorithms development.
- Familiarity with Engineering processes and terminology.
- Project management experience is a benefit.
- Full proficiency in English, both verbal and written is a must.

People skills & competencies

- You are easily self-motivated and proactive in collecting inputs and addressing issues timely.
- You are results-driven, eager to create a sense of urgency for projects and make optimal use of available resources to produce results.
- You can work independently as well as a part of the team, manage multiple projects simultaneously and drive innovation.
- A well-developed judgment and strong decision-making skills allow you to work with other team members independently to produce results.
- A result-driven mindset and the ability to make optimal use of available resources to Produce results.
- An open-minded mindset and creative as well as critical thinking.
- Excellent communication skills, and you feel comfortable engaging with stakeholders across all functions and cultures – both internally and externally.
- You are self-driven and have chosen never to become complacent in life but aim to develop yourself and the people around you every day. You are also a natural challenger, not afraid to raise your opinion and challenge the status quo.
- You know success combines hard work, solid priorities and high quality.
- You know that working as a team and supporting a solid feedback culture will get us all where we want to go – faster!

We offer you the following:

- The opportunity to become part of a company poised to revolutionize the development and manufacturing of the electronic, photonics, and optics industry.
- An opportunity to have influence and make a significant contribution to a young and fast-growing company.
- International team collaboration and a great place to work where we like to be together.
- Opportunities and support to advance your personal and career.
- Working with state-of-the-art, most advanced technologies and highly innovative customer projects.
- Interactions with international partners, suppliers, customers, and associated travel.

ATLANT 3D Nanosystems is a unique workplace driven by exceptional, innovative people. Each team member is unique in our company and contributes to building an international, intelligent, diverse and positive work culture nurtured by a sharp vision and authentic engagement. By joining us, you will have the opportunity to enhance your skills and develop and drive impact.

As an agile organisation, we aim to empower our employees with flexibility, transparent management, and inspiring learning. And then we love and support you when you develop into a new role on your career path.

We love passionate and motivated people (like you!) to help us bring innovative solutions, drive impact and be a part of a unique, exciting growth journey.

Ready to start an exciting journey at ATLANT 3D Nanosystems? Be curious and read about us here.
If you want to know more about the position, please get in touch with the Head of People & Culture, Susie Sandberg, by email or mobile at +45 4290 9097.

ATLANT 3D Nanosystems is a Danish deep-tech company founded in 2018 with a mission to revolutionise electronics manufacturing atom by atom. The company is developing a fundamentally different and innovative platform for direct atomic layer processing/patterning (DALP) technology that enables atomically precise manufacturing of advanced materials and structures for the electronics, optics, and photonics industries.

At ATLANT 3D, we are a highly dynamic, international, and multidisciplinary team of experienced professionals. The ATLANT 3D team culture is a significant asset that drives radical innovation and rapid movement and creates differentiating benefits like a bold vision, concrete technology and commercial value. ATLANT 3D closed a substantial Series A investment round in August 2022, Denmark's largest Series A round outside the life sciences and software field. The funding will accelerate ATLANT 3D growth, including expanding the engineering and commercial teams, further developing the technology platform, and expanding ATLANT 3D business to the international markets.