Date: October 14, 2021

Title: Co-Ops Data Scientist – Engineering/Science Focus.

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Co-Ops Data Scientist

**Global Data & Analytics Group** is a cross-functional team within the Process Research group at Guardian Glass. We are on the front lines of projects that impact the operations and business of Guardian Industries manufacturing assets. We employ *Machine Learning, Artificial intelligence, Optimization, Process Engineering,* and *IoT* technologies to improve the efficiency of Guardian’s manufacturing processes. Examples of the challenges our group tackles are opportunities to optimize the existing operations, work closely with process research and operations teams to determine what process settings drive certain manufacturing results, and improve operations or predict future behaviors of a product as it moves through the manufacturing. GD&A group is that focuses on applying advanced quantitative methods to solve a wide variety of challenging operations problems.

As a **Data Scientist** will join a growing team dedicated to identifying, developing, refining, and deploying data science solutions in glassmaking, coating processes, and business forecasting. As a data scientist, you will use machine learning techniques to gain and share new insights, develop predictive tools, and improve process control and predictability. You will be responsible for working closely with key stakeholders and data engineers to efficiently identify and implement improvements to data infrastructure for downstream analytics needs. You will determine the right models to use for various process applications from ideation, proof-of-concept through the design of applications, as well as monitor and improve deployed operational-real-time models. You will keep Guardian current with state-of-the-art machine learning software and hardware in the cloud and on-premise and pursue continuous self-training and train others across the organization. You will gain exposure to senior leadership as you showcase your results to key stakeholders in the business, demonstrating the superior value of your work. You will report to the R&D Group Leader of Process Research & Data Analytics.

Our group of highly-skilled, enthusiastic data scientists and operations research engineers is redefining what's possible for Guardian by utilizing the massive amount of process data to transform operations and research and development. We invest in our team by encouraging attendance at industry conferences and ongoing education opportunities enabling them to stay on the dynamic ever-changing data science landscape and bring new methods and techniques to their projects.

**Responsibilities**

- Develop a strong understanding of the operations and business processes and identify possible opportunities that add value.
- Apply machine learning algorithms to perform analysis, create predictive models, visualize data, and drive projects through to delivery toward the solution of operations problems.
- Interact with business and manufacturing SMEs to identify requirements and propose solutions.
- Have the intellectual curiosity to research and identify new modeling technologies/methodologies/software packages to improve the current modeling processes.
- Continuously scan and test new data sources, tools, and analytical techniques and partner with leading institutions and experts to contribute to our portfolio of next-generation analytics projects.
- Interface with key stakeholders and technical experts to ensure hardware and software support for data analytics is maintained.
- Analyze large complex time series datasets to extract useful patterns to deliver business insights and communicate results to key decision-makers.
- Issue reports detailing tool development (including unsuccessful approaches), quality assurance actions performed, results, etc.
• Work with data engineers to improve functionality in data systems (e.g., data reliability, efficiency, usability, and quality) and improve downstream data analysis capabilities
• Work with various functional teams; owning end-to-end solution development and scaling focused on operations challenges.
• Rapidly design, prototype, and test many possible hypotheses. Further, focus on building minimum viable products toward solving most of the issue instead of “perfecting” the solution, unless critical to safety.
• Engage with internal customers - operations teams and process SME’s - to leverage your critical thinking skills to apply data science modeling solutions.
• Research and implement advanced Machine Learning techniques to solve operation and business opportunities; move from proof of concept to minimum viable product efficiently.
• Leading and working on multiple projects at the same time and switching priorities as the business needs require.
• Employ visualization, reporting, and other tools to improve how teams access various datasets.
• Strong visualization, reporting, and other tools to improve how teams access various datasets.

Qualifications:
Required:
• Master’s or Ph.D. student in a quantitative field (Engineering, Physics, Operational Research, Economics, Computer Science or equivalent)
• Experience in various signal processing methods and techniques.
• Exposed to a variety of predictive, machine learning, and artificial intelligence techniques (classification, predictive, artificial neural networks, etc.) and real-world applications such as computer vision.
• Experience in statistical techniques and concepts (probability, statistical tests, multi-variate regression, etc.) and experience with applications.
• Experience with hands-on experience in programming with Python and machine learning packages (Tensorflow/PyTorch, Keras, Scikit-learn, Pandas, Numpy, Plotly, Dash, Streamlit, etc.)

Preferred:
• Experience in applying ML to solve complex problems for applications.
• Strong communication skills for a technical and a non-technical audience. Solid technical writing and presentation skills.
• Strong data-driven storytelling to present to stockholders.
• Combination of analytical rigor and statistical methods with strong and creative problem-solving skills.
• Project management (e.g., Agile) and executing projects that require cross-functional.
• Demonstrated knowledge of concepts of power analysis, hypothesis testing, inference, and DOE
• Familiarity with various computing infrastructures and technologies e.g., AWS, GPU, Linux, GIT, etc.
• Open to learn continuously and apply what's learned in practical applications.
• Educate and coach team members and partners on new technologies and tools.
• Working knowledge of glass manufacturing processes and/or vacuum coating
• Experience in process operations analytics and manufacturing optimization
• Knowledge of tools such as Spark, Hadoop, Pig, Kafka, Kinesis, Docker, Snowflake, Amazon SageMaker, AWS, Azure
• Knowledge in FinTech
• Experience with UI/UX.
• Fluent with SQL.

TRAVEL REQUIREMENTS:
The position may require travel in the range of 10%.

LOCATION:
Flexible.