

Daniemi Automation SpA

Daniemi Automation is the Company, within the Daniemi Group, responsible to provide process automation and control systems for the metals industry, covering the wide spectrum of Daniemi technology. Software algorithm models and production control systems are developed in house and are the means to transfer Daniemi process know-how to final users. We also design and supply complete electrical distribution systems and we produce special instruments and sensors for sophisticated controls and quality certification.

Steel making is a complex industry where each single process in the production chain generates a vast amount of data that can provide valuable insight when properly managed. Following the vision of Industry 4.0, Daniemi has created a new cross-functional business unit named DIGI&MET, whose mission consists in developing new plant design concepts, based on the extensive digitalization of process and the deep integration of cyber and physical worlds.

Data scientists represent key figures; their role is to extract knowledge from data and build models that can be deployed in production. This activity starts collecting data from several sources and performing an exploratory analysis to assess data integrity and identify the most relevant features. The most appropriate algorithm is then chosen: techniques may range from simple statistical analysis up to more advanced Machine Learning and Deep Learning models. Models are then deployed in production and integrated in the existing plant IT infrastructure. Data scientists are also responsible to monitor model performance and present results, collaborating with the engineering team and the process experts. The applications include process control and optimization, quality control and materials properties prediction, anomalies detection, computer vision.

The data scientist is a figure with strong analytical and problem solving skills combined with a good knowledge of programming languages and good communication skills.