



NOVOLIPETSK STEEL

05 February 2021

Reference letter

Dmitry Zorikhin joined Digital Transformation team at VIZ-Steel asset of NLMK Group as Data Scientist in July 2020.

He is actively involved in following digitalization and data science projects: furnace lid cooling model, electrical steel roll flatness model, defects detection and optimal steel roll cutting model, AR remote expert, laser cutting technology for electrical steel rolls, digitalization of the crane infrastructure in production plant, heating element breakage model, predictive analytics for rolling units and roll breakage model.

Dmitry designed architecture and implemented ETL process for production deployment of ML model for furnace lid cooling digital product. This approach reduced data preprocessing up to 10 times. Moreover, Dmitry used Oracle database and Jupyter notebooks in order to scale up the product which resulted in tens of thousands of dollars of economic benefit.

Dmitry proposed neural network as solution for localization and classification problem for defects detection and optimal steel roll cutting model. By using this state-of-the-art approach, the precision above 90% has been achieved at Proof of Concept stage. This result demonstrates strong foundation for further development of the product with potential economic benefit of several hundreds of thousands of dollars per year.

Currently, Dmitry is focal point for AR remote expert digital product within the whole NLMK Group. He was involved in first trial of this technology and after successful implementation at Electrical Steel Division he helped another NLMK Group asset (Altai-Koks) to apply AR remote expert for their needs.

Dmitry has proven that through innovation, smart work, follow through, and team work, he can accomplish tasks of a high standard in a timely manner. I can see Dmitry's potential as he broadens his knowledge and experiences. His education rate, willingness to learn and gain new experience are a strong basis for his prompt development. Dmitry worked as cross-functional expert in the condition of uncertainty with high level of stress management.

I wish him all the best going forward with his career and am confident that his dedication and determination will be an asset towards the company.

Alexander Khromov

Head of Digital Transformation

NLMK Group, VIZ-Steel, Yekaterinburg, Russia

Tel.: +7(343)278 9198

Email: hromov_am@nlmk.com