

Certificate of Completion

1253

**Ivan
Nikolaev**

has demonstrated
exceptional dedication
to mastering
the technology
of Spark



Spark

Spark
Streaming

RDD

Spark ML

Graph
Frames

Data
Frames



A handwritten signature in black ink, likely belonging to Elena Tretyakova.

ELENA TRETYAKOVA

Director, New Professions Lab
December 15, 2020