Verified Certificate

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Director of the Data Science Institute Henry and Gertrude Rothschild Professor of Computer Science

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P. Callesi

Patricia Culligan

Associate Director of the Data Science Institute Professor of Civil Engineering Columbia University

Garud lyengar

a course of study offered by ColumbiaX, an online learning

initiative of Columbia University.

DS102X: Machine Learning for Data Science and

Analytics

successfully completed and received a passing grade in

Ермагамбет Расул Бахбергенулы

This is to certify that

Operations Research, Chair of the Department Professor of Industrial Engineering and

Columbia University

Issued December 21, 2021 Verified Certificate

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