



05/23/2020

**Volodymyr Bozhko**

has successfully completed

**Data Manipulation at Scale: Systems and Algorithms**

a MOOC from the University of Washington and offered through Coursera

A handwritten signature in black ink, appearing to read 'Bill Howe', positioned above a horizontal dotted line.

Bill Howe, Ph.D  
Associate Director  
eScience Institute  
Affiliate Assistant Professor  
Computer Science & Engineering  
University of Washington

**COURSE  
CERTIFICATE**



Verify at [coursera.org/verify/VPMMZRT3QKLD](https://coursera.org/verify/VPMMZRT3QKLD)

Coursera has confirmed the identity of this individual and  
their participation in the course.