

# HONOR CODE CERTIFICATE



**W. Eric L. Grimson**

Bernard Gordon Professor of Medical Engineering  
Chancellor for Academic Advancement  
*Massachusetts Institute of Technology*

# Jakub Langr

successfully completed and received a passing grade in

**6.00.2x: Introduction to Computational Thinking and  
Data Science**

a course of study offered by MITx, an online learning  
initiative of The Massachusetts Institute of Technology through edX.

**John Guttag**

Dugald C. Jackson Professor of  
Computer Science and Electrical Engineering  
*Massachusetts Institute of Technology*

**Sanjay Sarma**

Director of Digital Learning  
*Massachusetts Institute of Technology*

**HONOR CODE CERTIFICATE**  
Issued May 8th, 2014

Verify the authenticity of this certificate at  
<https://verify.edx.org/cert/fe1ca39e17254e6bb61d85db50016e69>

# HONOR CODE CERTIFICATE



# Jakub Langr

successfully completed and received a passing grade in

**6.041x: Introduction to Probability -- The Science of Uncertainty**

a course of study offered by MITx, an online learning initiative of The Massachusetts Institute of Technology through edX.

**HONOR CODE CERTIFICATE**  
Issued May 22nd, 2014

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**Patrick Jaillet**

Dugald C. Jackson Professor, *MIT Department of Electrical Engineering and Computer Science*

**John Tsitsiklis**

Clarence J. Lebel Professor, *MIT Department of Electrical Engineering and Computer Science*

**Sanjay Sarma**

Director of Digital Learning  
*Massachusetts Institute of Technology*

*April 8th, 2014*

This is to certify that,

**Jakub Langr**

has successfully completed a free online offering of

**Statistical Learning**



**Trevor Hastie**

John A Overdeck Professor of Statistics  
**Stanford University**



**Rob Tibshirani**

Professor in Health Research and Policy and Statistics  
**Stanford University**

**PLEASE NOTE:**

SOME ONLINE COURSES MAY DRAW ON MATERIAL FROM COURSES TAUGHT ON-CAMPUS BUT THEY ARE NOT EQUIVALENT TO ON-CAMPUS COURSES. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT STANFORD UNIVERSITY IN ANY WAY. IT DOES NOT CONFER A STANFORD UNIVERSITY GRADE, COURSE CREDIT OR DEGREE, AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

Authenticity of this statement of accomplishment can be verified at: <https://verify.class.stanford.edu/SOA/bb83672801e243f983670a8a5a4641e6>

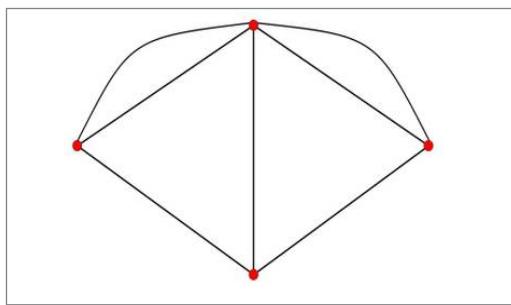
MARCH 11, 2014

# Online Course Statement of Accomplishment

WITH DISTINCTION

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED A FREE ONLINE OFFERING OF THE FOLLOWING COURSE PROVIDED BY STANFORD UNIVERSITY THROUGH COURSERA INC.



### Social and Economic Networks: Models and Analysis

This graduate-level course introduces students to a variety of models and techniques for analyzing social and economic networks, including random graph models, statistical models, and game theoretic models of network formation, diffusion, learning, and peer effects.

A handwritten signature in black ink that appears to read "Matthew O. Jackson".

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MATTHEW O. JACKSON  
PROFESSOR OF ECONOMICS  
STANFORD UNIVERSITY

PLEASE NOTE: SOME ONLINE COURSES MAY DRAW ON MATERIAL FROM COURSES TAUGHT ON CAMPUS BUT THEY ARE NOT EQUIVALENT TO ON-CAMPUS COURSES. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT STANFORD UNIVERSITY IN ANY WAY. IT DOES NOT CONFER A STANFORD UNIVERSITY GRADE, COURSE CREDIT OR DEGREE, AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

APRIL 01, 2015

# Online Course Statement of Accomplishment

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED A FREE ONLINE OFFERING OF THE FOLLOWING COURSE PROVIDED BY STANFORD UNIVERSITY THROUGH COURSERA INC.



### Algorithms: Design and Analysis, Part 1

This is an undergraduate course on the design and analysis of algorithms. The main topics are: asymptotic analysis, divide and conquer algorithms, sorting and searching, basic randomized algorithms, graph search, shortest paths, heaps, search trees, and hash tables.



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TIM ROUGHGARDEN  
ASSOCIATE PROFESSOR OF COMPUTER SCIENCE  
STANFORD UNIVERSITY

PLEASE NOTE: SOME ONLINE COURSES MAY DRAW ON MATERIAL FROM COURSES TAUGHT ON CAMPUS BUT THEY ARE NOT EQUIVALENT TO ON-CAMPUS COURSES. THIS STATEMENT DOES NOT AFFIRM THAT THIS PARTICIPANT WAS ENROLLED AS A STUDENT AT STANFORD UNIVERSITY IN ANY WAY. IT DOES NOT CONFER A STANFORD UNIVERSITY GRADE, COURSE CREDIT OR DEGREE, AND IT DOES NOT VERIFY THE IDENTITY OF THE PARTICIPANT.

JANUARY 18, 2014

# Online Course Statement of Accomplishment

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED A FREE ONLINE OFFERING OF THE FOLLOWING COURSE PROVIDED BY STANFORD UNIVERSITY THROUGH COURSERA INC.



### Machine Learning

Congratulations! You have successfully completed the online Machine Learning course ([ml-class.org](http://ml-class.org)). To successfully complete the course, students were required to watch lectures, review questions and complete programming assignments.

A handwritten signature in blue ink that reads "Andrew Ng".

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ASSOCIATE PROFESSOR ANDREW NG  
COMPUTER SCIENCE DEPARTMENT  
STANFORD UNIVERSITY

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# HONOR CODE CERTIFICATE



**Paul Blanchard**

Professor, Department of Mathematics and Statistics  
*Boston University*

# Jakub Langr

successfully completed and received a passing grade in

## **Math226.3x: Nonlinear Differential Equations: Order and Chaos**

a course of study offered by BUx, an online learning initiative of Boston University through edX.

**HONOR CODE CERTIFICATE**  
Issued September 17, 2015

Verify the authenticity of this certificate at  
<https://verify.edx.org/cert/e482bf9dec1a4facac98cfa5f2950657>



UDACITY CERTIFIES THAT

## Jakub Langr

HAS SUCCESSFULLY COMPLETED

### Data Wrangling with MongoDB

Data Manipulation and Retrieval

TAUGHT BY

Shannon Bradshaw

CO-CREATED BY

MongoDB



Sebastian Thrun  
CEO, Udacity

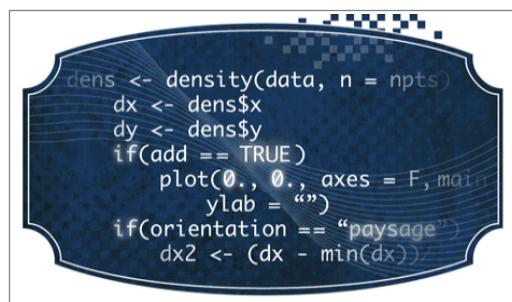


OCTOBER 28, 2012

# Statement of Accomplishment

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED THE JOHNS HOPKINS UNIVERSITY'S OFFERING OF



### Computing for Data Analysis

In this course students learn programming in R, reading data into R, creating data graphics, accessing and installing R packages, writing R functions, debugging, and organizing and commenting R code.

A handwritten signature in black ink, appearing to read "ROGER D. PENG". The signature is written over a horizontal dotted line.

ROGER D. PENG, PHD  
ASSOCIATE PROFESSOR OF  
BIOSTATISTICS  
JOHNS HOPKINS BLOOMBERG SCHOOL OF  
PUBLIC HEALTH

PLEASE NOTE: THE ONLINE OFFERING OF THIS CLASS DOES NOT REFLECT THE ENTIRE CURRICULUM OFFERED TO STUDENTS ENROLLED AT THE JOHNS HOPKINS UNIVERSITY. THIS STATEMENT DOES NOT AFFIRM THAT THIS STUDENT WAS ENROLLED AS A STUDENT AT THE JOHNS HOPKINS UNIVERSITY IN ANY WAY. IT DOES NOT CONFER A JOHNS HOPKINS UNIVERSITY GRADE; IT DOES NOT CONFER JOHNS HOPKINS UNIVERSITY CREDIT; IT DOES NOT CONFER A JOHNS HOPKINS UNIVERSITY DEGREE; AND IT DOES NOT VERIFY THE IDENTITY OF THE STUDENT.

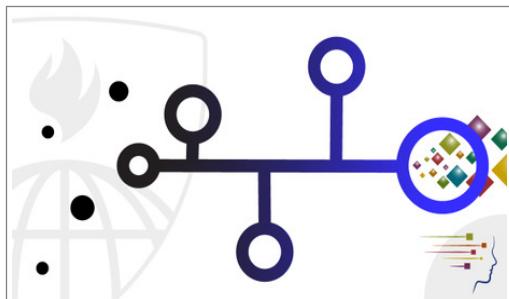
MAY 11, 2014

# Statement of Accomplishment

WITH DISTINCTION

# JAKUB LANGR

HAS SUCCESSFULLY COMPLETED THE JOHNS HOPKINS UNIVERSITY'S OFFERING OF



## Getting and Cleaning Data

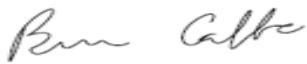
This course covers obtaining data from the web, APIs, databases, and colleagues in various formats, as well as the basics of cleaning and “tidying” data. It also covers the components of a complete data set: raw data, processing instructions, codebooks, & processed data.



JEFFREY LEEK, PHD  
DEPARTMENT OF BIOSTATISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH



ROGER D. PENG, PHD  
DEPARTMENT OF BIOSTATISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH



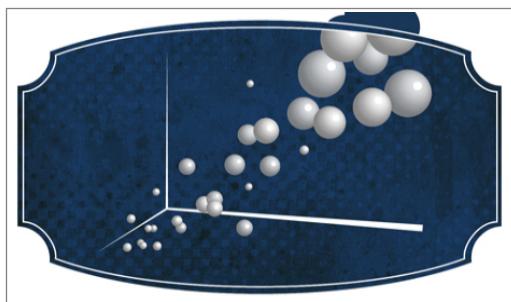
BRIAN CAFFO, PHD, MS  
DEPARTMENT OF BIOSTATISTICS, JOHNS HOPKINS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH

MARCH 22, 2013

# Statement of Accomplishment

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED THE JOHNS HOPKINS UNIVERSITY'S OFFERING OF



### Data Analysis

This course teaches students the most effective data analysis methods to solve problems and achieve insight.



JEFFREY LEEK, PHD  
ASSISTANT PROFESSOR  
DEPT OF BIOSTATISTICS  
BLOOMBERG SCHOOL OF PUBLIC HEALTH  
JOHNS HOPKINS UNIVERSITY

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DECEMBER 02, 2013

# Statement of Accomplishment

WITH DISTINCTION

# JAKUB LANGR

HAS COMPLETED



## Web Intelligence and Big Data

This course is about building 'web-intelligence' applications using machine-learning and parallel map-reduce programming to analyze 'big data' such as arising from social media or genomics.

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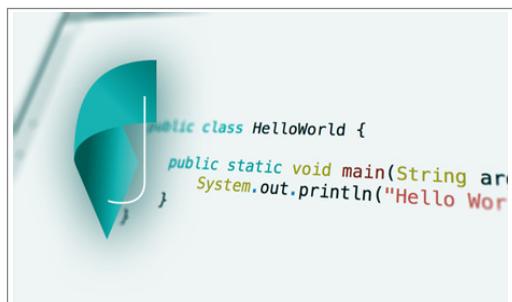
DR. GAUTAM SHROFF  
VICE PRESIDENT & CHIEF SCIENTIST  
TCS INNOVATION LABS  
TATA CONSULTANCY SERVICES

NOVEMBER 19, 2014

# Statement of Accomplishment

## JAKUB LANGR

A TERMINÉ AVEC SUCCÈS L'OFFRE EN LIGNE DE L'ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE DE



### Initiation à la programmation (en Java)

Le cours suivi propose une initiation aux concepts de base de la programmation impérative tels que : variables, expressions, structures de contrôle, fonctions/méthodes, ... en les illustrant dans la syntaxe du langage Java.

DR JEAN-CÉDRIC CHAPPELIER  
ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

DR JAMILA SAM  
ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

AVERTISSEMENT : CETTE OFFRE EN LIGNE NE REFLÈTE PAS L'ENTIÈRETÉ DU PROGRAMME OFFERT AUX ÉTUDIANTS INSCRITS À L'ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE. CE DOCUMENT N'AFFIRME PAS QUE CET ÉTUDIANT A ÉTÉ INSCRIT À L'ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE D'AUCUNE MANIÈRE; IL NE CONFÈRE PAS UN CRÉDIT DE L'ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE; IL NE CONFÈRE PAS UN TITRE OU UN CERTIFICAT DE L'ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE; ET IL NE VÉRIFIE PAS L'IDENTITÉ DE L'INDIVIDU QUI A SUIVI LE COURS.

# HONOR CODE CERTIFICATE



# Jakub Langr

successfully completed and received a passing grade in

## CS190.1x: Scalable Machine Learning

a course of study offered by BerkeleyX, an online learning initiative of The University of California, Berkeley through edX.

**HONOR CODE CERTIFICATE**  
Issued August 06, 2015

Verify the authenticity of this certificate at  
<https://verify.edx.org/cert/33952d8855e942ba8daa0ccb6a4d4cd1>

Johns Hopkins University  
CENTER FOR TALENTED YOUTH

CTYOnline

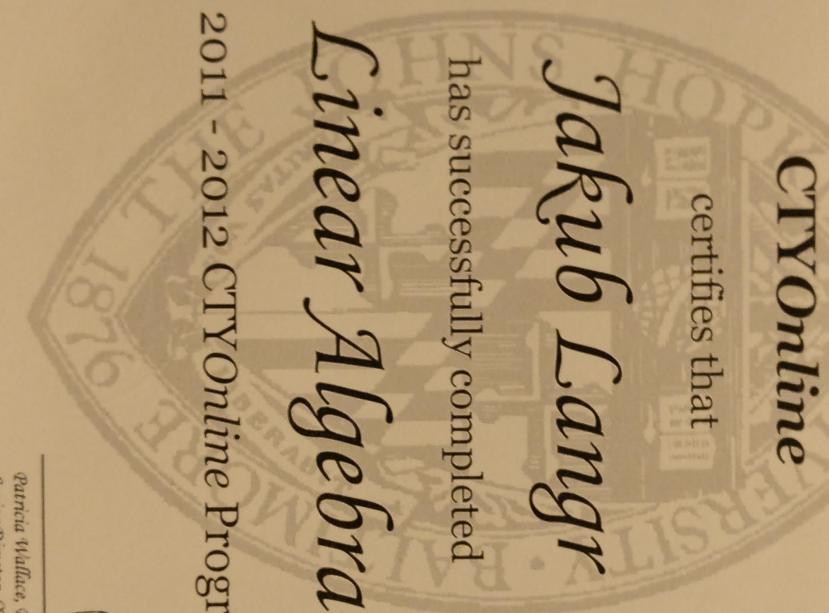
certifies that

Jakub Langer

has successfully completed

*Linear Algebra*

The 2011 - 2012 CTYonline Programs

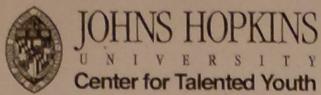


*Patricia Wallace, Ph.D.*

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Patricia Wallace, Ph.D.  
Senior Director, CTYOnline and Information Technology

*Patricia Wallace, Ph.D.*



**Jakub Langr**  
CTY ID: 1103742  
Date: May 18, 2012  
Course Completion Document

## Linear Algebra

Topics Covered	Test	Homework	Discussion	Comments
Unit 1: Linear Systems	92%	100%	100%	Jakub has successfully completed this challenging course in college level linear algebra. His performance is most impressive, as the course is based entirely on email communication with the instructor, reading a few sections from a book (written in English, not Jakub's first language) and then doing HW sets. Jakub has shown great initiative by taking on this course and tremendous work ethic by completing it while also doing all of his other studies.
Unit 2: Matrix Operations and Determinants	90%	100%	100%	I am very impressed by his mathematical ability and his linguistic abilities. It has been a pleasure working with Jakub and I wish him all the best of luck in his future studies.
Unit 3: Vector Spaces	76%	100%	100%	
Unit 4: Eigenvectors and Orthogonality	99%	100%	100%	
Unit 5: Least Squares and Symmetric Matrices	100%	100%	100%	
Unit 6: Symmetric Matrices and Quadratic Forms	78%	100%	100%	

### Grade Summary

Chapter Test Average:	93%
Final Exam:	86%
Overall Score:	91.6%
Course Grade:	A-

**Joseph DiNoto**

Instructor

### Coursework Recommendations

- Multivariable Calculus
- Differential Equations
- Other:

OCTOBER 27, 2012

# Statement of Accomplishment

## JAKUB LANGR

HAS SUCCESSFULLY COMPLETED



### Introduction to Finance

You have successfully completed the course, Introduction to Finance, an online, non-credit course, authorized by the University of Michigan and taught by Professor Gautam Kaul of the University of Michigan.

*Gautam Kaul*

PROFESSOR GAUTAM KAUL  
JOHN C. AND SALLY S. MORLEY  
PROFESSOR OF FINANCE  
UNIVERSITY OF MICHIGAN

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MAY 08, 2013

# Jakub Langr

has successfully completed with distinction

## Social Network Analysis

an online non-credit course offered by University of Michigan through Coursera

A handwritten signature in black ink that reads "Lada Adamic".

Lada Adamic  
Associate Professor  
School of Information, Center for the Study of Complex Systems, EECS  
University of Michigan

## VERIFIED CERTIFICATE

WITH DISTINCTION



Verify at [coursera.org/verify/FE9VAT6FZR](https://coursera.org/verify/FE9VAT6FZR)

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

# UDACITY

January 08, 2014

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This is to certify that

**Jakub Langr**

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Has successfully completed

**Algorithms**

**Crunching Social Networks**



With Accomplishment

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Michael Littman

A handwritten signature in black ink that reads "Michael Littman".