



4 Courses

Divide and Conquer, Sorting  
and Searching, and  
Randomized Algorithms

Graph Search, Shortest Paths,  
and Data Structures

Greedy Algorithms, Minimum  
Spanning Trees, and Dynamic  
Programming

Shortest Paths Revisited, NP-  
Complete Problems and What  
To Do About Them

Stanford | ONLINE

03/13/2017

Fan Yang

has successfully completed the online, non-credit Specialization

# Algorithms

In this specialization, learners developed a fundamental understanding algorithms and data structures. Learners studied general algorithm design paradigms and their applications, including divide-and-conquer, greedy methods, and dynamic programming; how to use data structures; and how to recognize and tackle NP-hard problems. Learners completed quizzes and programming assignments, and took an exam for each course. 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.

Tim Roughgarden  
Associate Professor of  
Computer Science  
Stanford University

Verify this certificate at:  
[coursera.org/verify/specialization/AC2JX7YJPC4W](https://coursera.org/verify/specialization/AC2JX7YJPC4W)

# Stanford | ONLINE

02/05/2017

## Fan Yang

has successfully completed

### Divide and Conquer, Sorting and Searching, and Randomized Algorithms

an online non-credit course authorized by Stanford University and offered through  
Coursera



Tim Roughgarden  
Associate Professor of Computer Science  
Stanford University

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.

## COURSE CERTIFICATE



Verify at [coursera.org/verify/XX6YPFYNRF6N](https://coursera.org/verify/XX6YPFYNRF6N)

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

# Stanford | ONLINE

02/14/2017

## Fan Yang

has successfully completed

### Graph Search, Shortest Paths, and Data Structures

an online non-credit course authorized by Stanford University and offered through Coursera



Tim Roughgarden  
Associate Professor of Computer Science  
Stanford University

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.

COURSE  
CERTIFICATE



Verify at [coursera.org/verify/MDLNYXRG2X8E](https://coursera.org/verify/MDLNYXRG2X8E)

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



# Stanford | ONLINE

02/26/2017

## Fan Yang

has successfully completed

### Greedy Algorithms, Minimum Spanning Trees, and Dynamic Programming

an online non-credit course authorized by Stanford University and offered through  
Coursera



Tim Roughgarden  
Associate Professor of Computer Science  
Stanford University

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.

## COURSE CERTIFICATE



Verify at [coursera.org/verify/8L6N4W7DSTVT](https://coursera.org/verify/8L6N4W7DSTVT)

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

# Stanford | ONLINE

03/13/2017

## Fan Yang

has successfully completed

### Shortest Paths Revisited, NP-Complete Problems and What To Do About Them

an online non-credit course authorized by Stanford University and offered through  
Coursera



Tim Roughgarden  
Associate Professor of Computer Science  
Stanford University

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.

COURSE  
CERTIFICATE



Verify at [coursera.org/verify/HM4TTZUUKYQS](https://coursera.org/verify/HM4TTZUUKYQS)  
Coursera has confirmed the identity of this individual and  
their participation in the course.