

# Lichen Zhang

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## EDUCATION

### CARNEGIE MELLON UNIVERSITY

B.S. IN COMPUTER SCIENCE  
MINOR IN DISCRETE MATH &  
LOGIC

Expected May 2021 |  
Pittsburgh, PA

Cumulative GPA: 3.96 / 4.0  
Dean's List High Honors (All  
Semesters)

## COURSEWORK

### GRADUATE

Machine Learning(10601)

### UNDERGRADUATE

Undergraduate Complexity  
Theory(15455)  
Combinatorics(21301)  
Parallel Algs & Data  
Structures(15210)  
Great Ideas in Theoretical Computer  
Science(15251)  
Intro to Computer System(15213)  
Modern Regression(36401)  
Advanced Data Analysis(36402)

### CURRENTLY TAKING

Algorithms(15451)  
Machine Learning for PhD(10701)  
Algebraic Structure(21373)

### ONLINE (COURSERA)

Machine Learning  
Neural Networks

## SKILLS

### PROGRAMMING

Python  
 $\LaTeX$   
C  
R  
C++  
SML

### INTERESTS

Machine Learning  
Computational Complexity Theory  
Combinatorics  
Algorithms

## RESEARCH

### COMPUTER SCIENCE DEPARTMENT, CARNEGIE MELLON UNIVERSITY

CODING THEORY & DISTRIBUTED ALGORITHM & MACHINE  
LEARNING

Summer 2019 | Pittsburgh, PA

With Professor Rashimi Vinayak, and Michael Rudow.

Combating stragglers in distributed learning: using coding theoretical  
tools to mitigate straggler problem in distributed machine learning,  
especially for gradient-typed functions.

### COMPUTER SCIENCE DEPARTMENT, NANJING UNIVERSITY

COMMUNICATION COMPLEXITY & INFORMATION THEORY &  
QUANTUM

Jan 2019 | Nanjing, China

With Professor Penghui Yao, and Chong Wang.

On one-way communication complexity: separation between classic and  
quantum communication complexity using cheatsheet framework.

## PROJECTS & EXPERIENCE

### TARTAN HACKS

COMPUTER VISION & INTERACTIVE UI

Feb 2018 | Carnegie Mellon University

Used computer vision to develop an interactive application on trash  
classification. Such a software can be used on trash bins with camera,  
where it first used its camera to capture the image of trash, then used  
computer vision classification algorithm to classify its type. If the user  
would mis-place the trash, an interactive program will appear on the  
screen and asked user to place it in the correct trash bin.

### 15112 TERM PROJECT

MACHINE LEARNING

Nov 2017 | Carnegie Mellon University

Used sklearn library to implement machine learning and data analysis  
system for an online game, Dota2. The system used data from  
professional players to learn and there was a recommendation system  
built in for users, to better understand their suitable positions in the game.  
Also, user could use it to find their game history and statistics.