Lichen Zhang

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EDUCATION

CARNEGIE MELLON UNIVERSITY
B.S. in Computer Science
Concentration in Algorithm & Complexity
Expected May 2021 | Pittsburgh,PA
Cumulative QPA: 3.93 / 4.0
Dean's List High Honors (All Semesters)

COURSEWORK

GRADUATE
Machine Learning(10601)
Machine Learning for PhD(10701)
Spectral Graph Theory(15859)

UNDERGRADUATE
Combinatorics(21301)
Algorithms(15451)
Algebraic Structure(21373)
Advanced Data Analysis(36402)
Real Analysis(21355)

ONLINE (COURSERA)
Machine Learning
Neural Networks

SKILLS

PROGRAMMING
Python
LaTeX
C
R
C++
SML
Java
Mathematica

INTERESTS
Spectral Graph Theory
Linear Algebra
Optimization Theory

LINKS

Homepage: **lichenzwww**
Github: **lichenzgithub**

RESEARCH

COMPUTER SCIENCE DEPARTMENT, CARNEGIE MELLON UNIVERSITY
Optimization Theory & Differential Equations
Summer 2020 | Pittsburgh, PA
With Professor Gary Miller, Professor Noel Walkington.

We study and explore the idea of modeling convex optimization algorithms as ODEs. Specifically, we look into the most vanilla gradient descents, Nesterov accelerated schemes, and Conjugate Gradient methods.

COMPUTER SCIENCE DEPARTMENT, CARNEGIE MELLON UNIVERSITY
Spectral graph theory
Oct 2019 - current | Pittsburgh, PA
With Professor Gary Miller, Tian Luo, and Andy Yang.

Experimenting local graph clustering algorithms such as pagerank nibble, evolving sets and capacity releasing diffusion on "hard" graphs for spectral method.

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

10701 COURSE PROJECT
Machine learning & natural language processing
Oct 2018 - Dec 2018 | Carnegie Mellon University

Used state-of-the-art natural language understanding system, BERT to predict Yelp scores based on review texts.

TARTAN HACKS
Computer vision & interactive UI
Feb 2018 | Carnegie Mellon University

Used computer vision to develop an interactive application on trash classification.