

COLIN CLEVELAND

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EDUCATION

National Taiwan University (NTU)

Mar. 2021 - present

M.S. in Electronic Engineering

- GPA in 4.3 scale: 4.08

- Supervised by Ho-Lin Chen in the Lab of Algorithm

National Taiwan University (NTU)

Sep. 2014 - Jun. 2019

B.S. in Computer Science and Information Engineering

- GPA in 4.3 scale (Overall/Last 60/Major) : 3.69/4.05/3.8

Minor in Economics and Mathematics

Research Interest: Algorithmic Game Theory, Evolutionary Game Theory, and Deep Learning

HONORS & AWARDS

2018 Taipei City Lion Club Germ Scholarship

2017 National Science Council Undergraduate Student Research Grant

2014 National Taiwan University Hope Scholarship

RESEARCH EXPERIENCE

Research on Algorithmic Game Theory (Prof Ho-Lin Chen)

National Taiwan University

Voting with Poll information

Jun. 2018 - Jun.2019, Mar. 2021- present

- Analyzed the complexity and designed algorithms for pollsters to affect elections
- Analyzed how voters faking their preference to maximize their utility.
- Find the general equilibrium between voters and pollsters.

Research on Public Goods Game (Dr Hsuan-Wei Lee)

Academia Sinica

Research assistant

Jun. 2020 - present

- Simulated the PGG scenarios with C++, Python.
- Generated dynamic animation to show how games reach equilibrium.
- Integrated PGG and reinforcement learning.

Lab of Algorithmic Research (Prof Hsueh-I Lu)

National Taiwan University

Minimum Cut of Directed Planar Graphs

Feb 2018 – Aug. 2018

- Reviewed previous minimum cut algorithms and their proofs.
- Combined old algorithms to create new ones, and analysed the complexity of the new algorithms.

PUBLICATIONS

- [1] LEE, H.-W., **Cleveland**, C., AND SZOLNOKI, A. Small fraction of selective cooperators can elevate general wellbeing significantly. *Physica A: Statistical Mechanics and its Applications* 582 (2021), 126222.
- [2] LEE, H.-W., **Cleveland**, C., AND SZOLNOKI, A. Mercenary punishment in structured populations. *Applied Mathematics and Computation* 417 (2022), 126797.
- [3] LEE, H.-W., **Cleveland, Colin**, AND SZOLNOKI, A. When costly migration helps to improve cooperation. *Chaos: An Interdisciplinary Journal of Nonlinear Science* 32, 9 (2022), 093103.

RELEVANT COURSES

Algorithm	Algorithm Design and Analysis, Formal Languages and Automata Theory, Design Strategies for Computer Algorithms
Economics	Number Theory, Generating Functions, Asymptotic Theory Economics (I) (II), Microeconomics (I) (II), Macroeconomics (I) (II), Topics in Neuroeconomics, Statistics and Econometrics with Recitation (I) (II) Decision Theory
Mathematics	Cryptography, Abstract Algebra, Game Theory Analysis (Honour Program) (I)(II): Basic Topology, Differential Calculus, Integral, Differential Form, Measure Theory Probability (I)(II): Measure Theory, Law of Large Number, Central Limit Theorem, Martingale, Markov Chains, Ergodic Theorems, Brownian Motion

WORK EXPERIENCE

Course: Data Structure	National Taiwan University, Taiwan
Teaching Assistant	Sep. 2021 - Jan. 2022, Sep.2022 - Present
<ul style="list-style-type: none">• Answered students' questions of the course.• Correct students' homework and exams.• Evaluation (2021): 4.4/5 (by Students)	
Education Platform	MobLab, Taiwan
Behavioral Science Research Internship	May. 2021 - Jan. 2022
<ul style="list-style-type: none">• Examined and designed AI for the educational games.• Statistically analysed the responses from players.	
Business Strategy Department	Fukuoka Financial Group, Japan
Data Scientist	Dec. 2019 - Feb. 2021
<ul style="list-style-type: none">• Business flow analysis with NLP (Japanese).• OCR of Japanese and number handwriting.• Discrete data merge (with SQL and NLP)	
Graduate Institute of Networking and Multimedia (INM)	National Taiwan University, Taiwan
Part-time worker	Nov. 2015 - Jun. 2019
<ul style="list-style-type: none">• Worked as the webmaster of the INM web page.• Repaired the computers and network in the INM office when they broke down.	

SKILLS

Programming	C/C++, Java, Python, PyTorch, SQL, Power BI
Math/Stats Softwar	R, Stata, Power BI
Web	Flask with Python, JavaScript
Language	Mandarin Chinese (native), Taiwanese (native), English (IELTS:7.5(overall),L:8,R:8,W:6.5,S:6.5) French (Basic), Japanese (N2), Czech (Basic)
Test Score	GRE general: (Q:170,V:154,AW:3.0)
Nationality	Taiwan