Andy C Lee

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EDUCATION

University of Illinois Urbana-Champaign — Urbana, IL
PhD Computer Science — GPA 3.84 – Expected May 2027/8
MS Computer Science — GPA 3.81 – May 2023
BS Mathematics and Computer Science; Economics — GPA 3.65 – May 2016

RESEARCH AND WORK EXPERIENCE

University of Illinois Urbana-Champaign — Urbana, IL
Graduate Researcher — August 2021 - Present

- Developing mechanism for attention allocation in social networks (WIP).
  > Developed system for interventions on feeds to meet content producer and consumer objectives.
  > Used reinforcement learning to develop optimal tax policy as part of user feed intervention
- Developed algorithm for robust team formation under uncertainty (In submission).
  > Created and evaluated genetic algorithm with novel application of stochastic dominance optimization criteria
  > Mechanism is robust to uncertainty in objective prioritization.
  > Found allocations are maximally satisfying for workers and managers. > Theoretical work finished, human subjects work in progress.
- Developed model of community formation with boundedly rational, resource constrained agents. (In submission, arxiv)
  > Used simulation and empirical data to show that model produces networks similar to observed social networks.
  > Proved convergence of model to stable network.
  > Demonstrated via ablation studies that strong fit to data is due to bounded rationality of agents.

Sandia National Labs — Albuquerque, NM
Graduate R&D Intern — Jun 2024 – August 2024

- Developed covariance intersection and bandit algorithms for multi-sensor tracking and triangulating objects.
- Determined geometric factors influencing performance of different optimization methods and algorithms.
- Published Sandia report "Analysis of Covariance Intersection For Triangulation", available via OSTI

Facebook — Seattle, WA
Data Engineer, Analytics — July 2020 – August 2021

- Developed and designed datasets, metrics, and monitoring for data privacy and advertising signals.
- Collaborated with data science, engineering, and research to understand advertising performance and user behavior.

PROJECTS

- Model of cooperation between cancer clones
- Optimization method for minimizing error ratios in piano tuning
- Prediction of the McRib returning via pork commodity prices

ADDITIONAL

Teaching: Discrete Structures, Intro to CS, Data Structures and Algorithms
Other work experiences:

- **Viasat Engineering Intern** - Developed tool for managing data pipelines (Summer 2018)
- **Facebook Data Engineering Intern** - Developed auditing tools and automation for earnings call (Summer 2019)
- **Illinois Geometry Lab** - Published paper "Firefighting on the Hexagonal Grid" in Discrete Applied Mathematics

Skills: Python, numpy, SQL, network science, mechanism design, algorithmic game theory, mathematical modeling
Academic honors: Wing Kai Cheng Fellowship 2023, Outstanding TA Spring 2025, James Scholar, Dean's List 2020, Graduation with high distinction in Mathematics and Computer Science