# Abhay Singh

as2626@cornell.edu (404) 353-0477

**education**

**Cornell University**, Ithaca, NY
M.S. in Computer Science — Aug 2021 – May 2023
Advisor: Anil Damle

B.S. in Computer Science (Honors), *Summa Cum Laude* — Aug 2018 – May 2021
Advisor: Austin Benson
GPA: 4.14/4.30

**coursework**

Numerical Methods (Graduate), Probability (Graduate), Statistical Distances (Graduate), Algorithms (Graduate), Network Theory (Graduate), Computer Vision (Graduate), Machine Learning, Real Analysis, Linear Algebra, Compilers

**preprints & publications**

**Edge Proposal Sets for Link Prediction** (under submission)
*Abhay Singh, Qian Huang, Sijia Linda Huang, Omkar Bhalerao, Horace He, Ser-Nam Lim, Austin Benson*

**Combining Label Propagation and Simple Models Out-performs GNNs** (ICLR 2021)
*Qian Huang, Horace He, Abhay Singh, Ser-Nam Lim, Austin Benson*

**Better Set Representations For Relational Reasoning** (NeurIPS 2020)
*Qian Huang, Horace He, Abhay Singh, Yan Zhang, Ser-Nam Lim, Austin Benson*

**professional experience**

**Citadel, Global Quantitative Strategies**, Chicago, IL
*Incoming Quantitative Research Intern* — June 2022 – Aug 2022
- Portfolio Optimization Team

*Software Engineering Intern* — June 2021 – Aug 2021
- Portfolio Optimization Robustness and Latency

**Yext**, New York, NY
*Software Engineering Intern* — June 2020 – Aug 2020
- Application Security & Code Vulnerability

**Morgan Stanley**, New York, NY
*Technology Summer Analyst* — June 2019 – Aug 2019
- Efficient Data Pipelines

**teaching experience**

**CS 4820: Introduction to Analysis of Algorithms**
*Head Teaching Assistant, Cornell University* — Aug 2021 - Dec 2021
*Teaching Assistant, Cornell University* — Aug 2019 - Dec 2019

**CS 4780: Introduction to Machine Learning**
*Head Teaching Assistant, Cornell University* — Aug 2020 - May 2021

**service & leadership**

**Cornell University Artificial Intelligence**
*Co-President* — Aug 2021 - May 2022

**Reviewer**:
ICLR 2022, NeurIPS 2021

**projects**

**1-Lipschitz Deep Equilibrium Models**
- Enforced uniqueness and existence of fixed-point solution from root-finding neural network

**Few-Shot Instance Segmentation**
- Designed architecture to perform proposal-free few-shot instance segmentation

**Continual Learning with Lottery Tickets**
- Demonstrated effectiveness of novel training scheme to resist catastrophic forgetting

**Xi Compiler**
- Wrote optimized compiler to emit x86 assembly instructions, includes dataflow analysis and non-trivial register allocation; ∼10,000 lines of code