

# Guanghao Ye

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RESEARCH INTERESTS	<ul style="list-style-type: none"><li>◇ Design and Analysis of Algorithms</li><li>◇ Convex Optimization</li><li>◇ Spectral Graph Theory</li><li>◇ Learning Theory</li></ul>	
EDUCATION	<p><b>Massachusetts Institute of Technology, Cambridge, MA</b>    <b>Sept.2021 – Present</b> Ph.D. student in Mathematics</p> <p><b>University of Washington, Seattle, WA</b>    <b>Mar. 2020 – Jun. 2021</b> M.S. in Computer Science Advisor: Yin Tat Lee Thesis: <i>A Nearly-Linear Time Algorithm for Linear Programs with Small Treewidth</i></p> <p><b>University of Washington, Seattle, WA</b>    <b>Sept. 2017 – Mar. 2020</b> B.S. in Computer Science with Honors; B.S. in Mathematics Cum Laude Advisor: Yin Tat Lee Thesis: <i>Fast Algorithm for Solving Structured Convex Programs</i></p>	
HONORS AND AWARDS	<ul style="list-style-type: none"><li>◇ MIT Presidential Fellowship    2021 – 2022</li><li>◇ Herbold Data Science Fellowship    2020 – 2021</li><li>◇ UW Allen School Best Senior Thesis (Honorable Mention)    2020</li><li>◇ Microsoft Endowed Scholarship    2018 – 2020</li><li>◇ 1<sup>st</sup> place in the ICPC UW Programming Contest    2019</li><li>◇ 5<sup>th</sup> place in the ICPC Pacific Northwest Regional    2017/2018</li></ul>	
PUBLICATIONS	<p><b>Nested Dissection Meets IPMs : Planar Min-Cost Flow in Nearly-Linear Time</b> With Sally Dong, Yu Gao, Gramoz Goranci, Yin Tat Lee, Richard Peng, and Sushant Sachdeva SODA 2022 (to appear)</p> <p><b>A Nearly-Linear Time Algorithm for Linear Programs with Small Treewidth: A Multiscale Representation of Robust Central Path</b> With Sally Dong and Yin Tat Lee    arXiv: 2011.05365 STOC 2021 Invited to SICOMP Special Issue</p> <p><b>Robust Gaussian Covariance Estimation in Nearly-Matrix Multiplication Time</b> with Jerry Li.    arXiv: 2006.13312 NeurIPS 2020</p>	
INDUSTRY EXPERIENCE	<p><b>Software Engineer Intern</b>    Airbnb June 2019 – Sept. 2019    Seattle, WA Payment Team</p>	

TALKS AND  
PRESENTATIONS

**A Nearly-Linear Time Algorithm for Linear Programs with Small Treewidth: A Multiscale Representation of Robust Central Path**  
STOC, Virtual Jun 2021

**Robust Gaussian Covariance Estimation in Nearly-Matrix Multiplication Time**  
NeurIPS, Virtual Dec 2020

**Finding Correlated Pairs**  
UW Theory Lunch, Seattle, WA Nov 2019

TEACHING

**CSE 421: Introduction to Algorithms: Majors**  
Spring 2018, Autumn 2018, Spring 2019, Winter 2020

**CSEP 521: Applied Algorithms: Graduate Level**  
Winter 2019

REFERENCES

Available upon request