

# Tanvi Bajpai

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- EDUCATION**      **University of Illinois at Urbana Champaign (UIUC), IL**  
2019-Present  
*Ph.D.* in Computer Science  
Expected Graduation May, 2024  
Advisors: Chandra Chekuri (Theory) and Eshwar Chandrasekharan (HCI)
- Carnegie Mellon University (CMU), Pittsburgh, PA**  
2015-2019  
*B.S.* in Computer Science with Additional Major in Discrete Math & Logic
- TEACHING**      **Teaching Assistant (TA) for the following courses:**
- UIUC:**  
CS173: Discrete Structures. F19<sup>+</sup>, Summer 20<sup>+</sup>  
CS473: Algorithms. S20  
CS374: Introduction to Algorithms and Models of Computation, F20<sup>+</sup>  
+ - denotes semester placed on "Teachers Ranked as Excellent" list ☞
- CMU:**  
15-151: Mathematical Foundations of Computer Science. F16,F17\*,F18\*  
15-451/15-651: Algorithm Design and Analysis. S18,S19  
\* - denotes semester spent as Head TA
- WORK EXPERIENCE**      **Illinois Secondary Teacher and Computer Science Initiative ☞      Fall 2020-**  
Designing a course to teach Discrete Mathematics to Illinois secondary school teachers as a part of a Computer Science curriculum.
- Microsoft - Explorer Intern      Summer 2017**  
Worked for the Xbox Live Social team and their affiliate streaming platform Mixer. Developed a Node.js SDK to aid in chat-bot creation for Mixer and XBL users, and created a moderator chat-bot named MOSSMO that could monitor the overall sentiment of a chat and report users in order to demonstrate the SDK's functionality.
- RESEARCH PROJECTS**      **Bootstrapping Virtuous Active Learning cYcles, CMU      2017-2019**  
Worked to develop discrete algorithmic frameworks to dynamically rank both students and student-sourced quiz questions based on peer performance and review. Worked with Professors R. Ravi and Wolfgang Gatterbauer.
- Fair Clustering with Outliers, UMD      Summer 2018**  
Defined a bias-aware version of the canonical  $k$ -clustering with outliers problem. Created and adapted clustering algorithms to promote fairness and diminish bias. Worked with Professor Samir Khuller.
- Diversifying Recommendations, CMU      2016-2017**  
Developed a novel metric for diversity in recommendations that focused on increasing the diversity for item audiences. Formulated algorithms to optimize for the metric. Worked with Professor R. Ravi.
- PUBLICATIONS**      **Revisiting Priority  $k$ -Center: Fairness and Outliers.** Tanvi Bajpai, Deeparnab Chakrabarty, Chandra Chekuri, Maryam Negahbani (2020) (pre-print; submitted to ICALP)
- A new system-wide diversity measure for recommendations with efficient algorithms.** Arda Antikacioglu, Tanvi Bajpai, R. Ravi, SIAM Journal on Mathematics of Data Science, 1(4), 759779. (2019).

<b>OUTREACH</b>	<p><b>Graduate Women in Computer Science (GradWCS) organization, Co-President, UIUC</b> <span style="float: right;"><b>2019-present</b></span> Responsible for reviving the GradWCS organization and organizing events for female graduate students in the CS department; develops panels and events for the undergraduate students studying CS to promote female participant in research and teaching.</p> <p><b>Women School of Computer Science (W@SCS), Undergraduate event coordinator, Graduate student liaison,</b> <span style="float: right;"><b>2017-2019</b></span> Created events relating to teaching, research, and impostor syndrome. Coordinated events with the graduate students to promote interest in research and going to graduate school.</p> <p><b>Program in Algorithmic and Combinatorial Thinking (PACT) Mentor, TA, Guest Speaker</b> <span style="float: right;"><b>2016, 2017, 2020</b></span> Worked as mentor and TA during summer of 2016. Guest lectured on sub-modular optimization in summer 2017. Running “help sessions” via Zoom for Fall 2020.</p>
<b>SERVICE</b>	<p><b>Broadening Participation in Computing Committee, UIUC</b> <span style="float: right;"><b>2020-present</b></span></p> <p><b>SCS Dean Search Committee, CMU</b> <span style="float: right;"><b>2018-2019</b></span></p>
<b>HONORS AND AWARD</b>	<p><b>K&amp;L Gates Prize</b> <span style="float: right;"><b>2019</b></span> <span style="float: right;">☞</span> University award for graduating senior who has best inspired fellow students at the university to love learning through a combination of intellect, high scholarly achievement, engagement with others and character.</p> <p><b>CMU Women’s Association Outstanding Graduating Senior Award</b> <span style="float: right;"><b>2019</b></span> <span style="float: right;">☞</span> Award for graduating senior students, with a preference for students who demonstrate a commitment to the advancement of women in their academic pursuits.</p> <p><b>Mark Stehlik Introductory &amp; Service Teaching Award</b> <span style="float: right;"><b>2019</b></span> <span style="float: right;">☞</span> Award for graduating senior who brings their best and indispensable efforts to teaching introductory courses.</p> <p><b>CMU Senior Leadership Recognition</b> <span style="float: right;"><b>2019</b></span></p> <p><b>CMU University Honors</b> <span style="float: right;"><b>2019</b></span></p> <p><b>Mark Stehlik SCS Alumni Undergraduate Impact Scholarship</b> <span style="float: right;"><b>2018</b></span> <span style="float: right;">☞</span> Scholarship recognizes and supports SCS undergraduates whose drive for excellence extends beyond the classroom - students who make a difference both in the field of computer science and the world around them.</p>