

# Tanvi Bajpai

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## EDUCATION

### UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

PH.D. IN COMPUTER SCIENCE  
Fall 2019 - Present

### CARNEGIE MELLON SCHOOL OF COMPUTER SCIENCE

B.S. IN COMPUTER SCIENCE  
AND

### DISCRETE MATHEMATICS & LOGIC

2015 - 2019

QPA: 3.5

University Honors

## COURSEWORK

### GRADUATE

Randomized Algorithms  
Consensus Algorithms

### UNDERGRADUATE

A Theorist's Toolkit  
Spectral Graph Theory  
Algorithm Design and Analysis  
Computational Discrete Math  
Compiler Design  
Designing Human Centered  
Software

## SKILLS

- Python • C • Java
- OCaml • SML
- HTML/CSS
- JavaScript/Node.js
- Processing
- Bootstrap

## ADDITIONAL INVOLVEMENT

- SCS Dean Search Committee
- Women@SCS
- CMU SCS Tours and Panels
- External Speaker Curator and Event Coordinator for TEDxCMU 2016

## WORK EXPERIENCE

### CARNEGIE MELLON | TEACHING ASSISTANT

2016 - 2019

- 15-151: Mathematical Foundations of Computer Science (F16, F17\*, F18\*)
  - Developed class materials to teach fundamental math concepts for first year computer science and mathematics students.
  - Lead recitation sections and review sessions.
  - \* indicates semester as Head TA. Managed course staff, facilitated staff meetings, delegated grading responsibilities and created grading rubrics. Oversaw hiring (and achieved 50-50 gender balance on course staff by F18)
- 15-451/15-651: Algorithm Design and Analysis (S18, S19)
  - Lead recitation sections and review sessions.
  - Created course notes for new lectures regarding algorithms for big data and graph spanners.

### MICROSOFT | EXPLORER INTERN

Summer 2017

- Worked on Xbox Live Social team and their affiliate streaming platform Mixer.
- Developed Node.js SDK to aid in chat-bot creation for Mixer and XBL users.
- 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

### BOOTSTRAPPING VIRTUOUS ACTIVE LEARNING CYCLES (BOVALY)

Fall 2017 - Spring 2019 | Carnegie Mellon

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

Summer 2018 | University of Maryland at College Park

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

2017 | Carnegie Mellon.

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. Paper recently accepted to the SIAM Journal on the Mathematics of Data Science.

## AWARDS

**K&L GATES PRIZE** | 2019

**CMWA OUTSTANDING GRADUATING SENIOR AWARD** | 2019

**STEHLIK INTRODUCTORY & SERVICE TEACHING AWARD** | 2019

**CMU SENIOR LEADERSHIP RECOGNITION** | 2019

**MARK STEHLIK UNDERGRADUATE IMPACT SCHOLARSHIP** | 2018