

# Jae Hyung (John) Sim

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## Education

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<i>Ph.D. Mathematics [Expected]</i> Boston University	Starting September 2019 Boston, MA
<i>B.A. Mathematics with Honors; Minor in Computer Science</i> University of Chicago <ul style="list-style-type: none"><li>• Math GPA: 3.78/4.00</li><li>• Overall GPA: 3.73/4.00</li><li>• National Merit Scholar</li><li>• Dean's List 2015-2018</li></ul>	Completed June 2019 Chicago, IL
<i>High School Diploma</i> Milton Academy	Graduated June 2015 Milton, MA

## Work and Research Experience

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<i>Number Theory Reading Course</i> University of Chicago <ul style="list-style-type: none"><li>• Reading course with Professor Matthew Emerton on local and global class field theory following <i>Algebraic Number Theory: Proceedings of an Instructional Conference</i> by Cassels and Frohlich throughout 2018</li><li>• Reading course with Professor Matthew Emerton on elliptic curves and CM fields loosely following <i>Arithmetic of Elliptic Curves</i> by Silverman</li></ul>	April 2018 - Current Chicago, IL
<i>Directed Reading Program</i> University of Chicago <ul style="list-style-type: none"><li>• Reading program for undergraduates to work with a graduate mentor in studying higher level mathematics</li><li>• Studying and will talk in front of participants on elliptic curve groups and their significance in number theory</li></ul>	March 2019 - Current Chicago, IL
<i>REU in Mathematics</i> University of Chicago <ul style="list-style-type: none"><li>• Summer research in Algebraic Number Theory and Local Fields with Professor Matthew Emerton</li><li>• Presented talk titled "Introduction to <math>p</math>-adic Numbers and Their Use in Algebraic Number Theory"</li><li>• Authored "The <math>p</math>-adic numbers and a proof of the Kronecker-Weber theorem" [link]</li></ul>	June - August 2018 Chicago, IL
<i>Analysis RTG Boot Camp</i> University of Chicago <ul style="list-style-type: none"><li>• Summer math seminar on Complex Analysis, Dynamical Systems, Probability, and Differential Geometry</li></ul>	June - August 2017 Chicago, IL
<i>REU in Mathematics</i> University of Chicago <ul style="list-style-type: none"><li>• Summer research program in advanced topics in mathematics such as graph theory and topology</li><li>• Authored "The Fundamental Group and CW Complexes"</li></ul>	June - July 2016 Chicago, IL
<i>Directed Reading Program</i> University of Chicago <ul style="list-style-type: none"><li>• Same program as <i>Directed Reading Program</i> above</li><li>• Studying proofs of quadratic reciprocity using field extensions and Frobenius elements</li></ul>	January - March 2018 Chicago, IL
<i>Department Reader</i> University of Chicago <ul style="list-style-type: none"><li>• Grader for undergraduate mathematics courses</li><li>• Graded MATH 19620 in Fall 2017, Winter 2018 and MATH 20410 in Winter 2019</li></ul>	September 2017 - Current Chicago, IL
<i>Maroon Tutor Match</i> University of Chicago	January 2016 - Current Chicago, IL

- Educational program providing affordable one-to-one tutoring for K-12 students in the Hyde Park neighborhood of Chicago
- Weekly tutoring three students in high school mathematics
- Tutoring undergraduates as a department tutor within University

## Extracurricular Activities

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### *Society of Physics Students*

September 2016 - June 2018

- Undergraduate student organization which hosts weekly Physics faculty talks and acts as intermediary between the Physics department and the undergraduate student body
- 2017-2018 Event Coordinator and Secretary
- 2016-2017 Outreach Chair

### *Groove Theory Dance Crew*

September 2015 - Present

- Hip Hop dance crew dedicated to promoting Hip Hop culture within the University of Chicago
- 2017-Current Freestyle Artistic Director
- Taught workshops for local high school students in partnership with My Block, My Hood, My City
- Organized From the Ashes May 2017 and May 2018, an annual festival celebrating the five elements of Hip Hop in partnership with the greater Chicago community and the University of Chicago

## Miscellaneous Skills

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- Proficient with C, Python, HTML, and  $\LaTeX$  with exposure to R
- Event planning and coordination
- Fluency in Korean
- Breakdancing