

# Charles J. Argue

## Curriculum Vitae

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### Education

- Expec. 2021 **PhD, Mathematics**, *Carnegie Mellon University*, Pittsburgh, PA.  
Advisor: Anupam Gupta
- 2015–2016 **Yeshiva Program**, *David Shapell College of Jewish Studies*, Jerusalem, Israel.
- 2015 **BS, Mathematics with Honors**, *The University of Chicago*, Chicago, IL.  
Cumulative GPA 3.9/4.0

### Teaching

#### **Instructor of Record**, *Carnegie Mellon University*.

Designed course, wrote all course materials, taught class and held office hours daily.

- Integral and Differential Calculus Su 18, Su 19

#### **Teaching Assistant**, *Carnegie Mellon University*.

Taught 1-2 recitations per week, wrote quizzes, held office hours, graded, guest lectured.

- Discrete Mathematics (1 semester hybrid) Fa 18, Fa 19, Fa 20
- Integration and Approximation (Lead TA, half-semester online) Sp 20
- Concepts of Mathematics (Lead TA) Sp 19
- Operations Research Sp 18
- Calculus in Three Dimensions Sp 17, Fa 17
- Methods and Models for Optimization Fa 16

#### **Teaching Assistant**, *University of Chicago*.

Taught 2 recitations per week, graded.

- Elementary Functions and Calculus Wi 13, Sp 13
- Elementary Number Theory Fa 12

### Publications

#### **Necessary and Sufficient Conditions for Rank-One Generated Cones.**

with Fatma Kılınç-Karzan, Alex Wang.

Submitted (arXiv abs/2007.07433), 2020.

#### **Dimension-Free Bounds for Chasing Convex Functions.**

with Anupam Gupta, Guru Guruganesh.

In Conference on Learning Theory, 2020.

#### **Chasing Convex Bodies with Linear Competitive Ratio.**

with Anupam Gupta, Guru Guruganesh, Ziyue Tang.

In ACM-SIAM Symposium on Discrete Algorithms, 2020.

[SODA 2020 Best Paper](#)

### **A Nearly-Linear Bound for Nested Convex Body Chasing.**

with Sebastien Bubeck, Michael Cohen, Anupam Gupta, Yin Tat Lee.  
In ACM-SIAM Symposium on Discrete Algorithms, 2019.

### **Covers in Partitioned Intersecting Hypergraphs.**

with Ron Aharoni.  
In European Journal of Combinatorics, 2016.

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## Professional Development

- Jan 2020-  
Present **Graduate Teaching Fellow**, *Eberly Center, Carnegie Mellon University.*
- Conducted classroom observations, in-person and online.
  - Facilitated teaching workshops.
  - Consulted on teaching philosophy statements.
  - Participated in biweekly discussions about evidence-based teaching practices.
- 2018-2020 **Future Faculty Program**, *Eberly Center for Teaching Excellence and Innovation, Carnegie Mellon University.*
- Attended 10<sup>+</sup> seminars on evidence-based teaching practices.
  - Received teaching observations and group feedback on classroom teaching.
- 2013-2015 **Tutor**, *InstaEDU Inc./Chegg Inc.*
- Provided one-on-one math lessons (online, 100<sup>+</sup> lessons).
  - Topics ranged from middle-school-level to advanced college-level.

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## Talks

### Research

#### **Chasing Convex Bodies with Linear Competitive Ratio.**

- SODA, Salt Lake City, UT, Jan 2020.
- CMU Math Graduate Students Seminar, Pittsburgh, PA, Dec. 2019
- CMU Theory Lunch, Pittsburgh, PA, Nov 2019.

#### **A Nearly-Linear Bound for Nested Convex Body Chasing.**

- SODA, San Diego, CA, Jan 2019.
- CMU Theory Lunch, Pittsburgh, PA, Nov 2018.

#### **Rank-One Generated Spectral Cones.**

- INFORMS Annual Meeting, Houston, TX, Oct 2017.

### Teaching

#### **Flipped Calculus: Videos and Exercises for Self-Teaching Computational Skills.**

- CMU Teaching and Learning Summit, Pittsburgh, PA, Nov. 2019

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## Service

- 2016-Present **Head Coach and Coordinator**, *Western Pennsylvania ARML Team.*
- Taught practices for a high school math team (~30 in-person practices, 10 online).
  - Managed team coaches, calendar, communications, travel, and \$24,000 annual budget.
  - Grew team from 20 to 80 students.
- 2020 **Teaching and Learning Summit Advisory Board**, *Carnegie Mellon University.*
- 2019 **Graduate Teaching Award Selection Committee**, *Carnegie Mellon University.*



## Recognition

- 2011-2015 **University Scholarship**, *University of Chicago*.
  - \$20,000 scholarship for academic merit
- 2014 **Phi Beta Kappa Inductee**, *University of Chicago*.
  - Induced Junior year