

Chris Arettines

CONTACT INFORMATION

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EDUCATION

The CUNY Graduate Center, New York, NY

Ph.D, Mathematics, 2015
Specialization in hyperbolic geometry and algorithmic topology

Stony Brook University, Stony Brook, NY

B.S. with Honors, Mathematics, 2009

WORK EXPERIENCE

Data Scientist, Yodle Inc. New York, NY

2016 - present

- Maintain and improve the algorithmic ad bidding platform using a variety of statistical models and machine learning techniques
- Perform ad hoc data analysis and model building for various departments across the company
- Maintain and develop tools for use across the company to make quantitative predictions and facilitate analysis of internal data
- Develop production-scale data processing pipelines

Adjunct Professor, City University of New York New York, NY

2011 - 2016

Department of Mathematics and Statistics, Hunter College

Department of Mathematics and Computer Science, John Jay College

- Subjects taught include calculus, complex analysis and probability
- Communicated mathematical concepts clearly and efficiently
- Developed original course material

Freelance Consulting

2014 - present

- Performed statistical analyses for social science research
- Constructed mathematical frameworks for solving business problems

Computational Mathematics Research

2009 - present

- Worked in java to analyze geometric problems
- Developed and implemented original algorithms using string processing

Guest Lecturer, various universities

2009 - present

Stony Brook University, Wesleyan University, Yale University and others

- Delivered advanced mathematical lectures to audiences ranging from undergraduates to university faculty

Risk Management Intern, National Grid Hicksville, NY

2008

- Monitored derivative positions for hedging purposes

- Developed price models for energy resources using regression analysis on time-series data.

VOLUNTEER
EXPERIENCE

Hark Society Mentor New York, NY **2015 - 2016**

- I mentored a young student to help them navigate the path towards higher education and a rewarding career.

Seminar Co-organizer and Webmaster CUNY Graduate Center **2009 - 2015**

- Co-organizer of several high-level seminars at the Graduate Center.
- Helped schedule speakers and provide logistical support.

Museum of Mathematics Volunteer New York, NY **2008**

- Interacted with visitors of all ages to help explain various mathematical concepts.

SELECTED AWARDS
AND HONORS

Dissertation Fellowship Award **2015**

Selective fellowship for outstanding research in mathematics

Speaker at the Ahlfors-Bers VI Colloquium at Yale University **2015**

Presented original research to a group of leading mathematicians

Doctoral Student Council Research Award **2013**

Met with faculty at Stanford University, University of Maryland, and Galatasaray University to expand knowledge of key research areas

MATHEMATICAL
WORK

Mathematical Writing

- *A combinatorial algorithm for visualizing representatives with minimal self-intersection* (Journal of Knot Theory and its Ramifications, Vol. 24, No. 11)
- *The geometry and combinatorics of closed geodesics on hyperbolic surfaces*, PhD Thesis, 2015
- “Combinatorial algorithms for examining configurations of curves on surfaces” (in preparation)
- “Angles of intersection of closed geodesics on the punctured torus” (in preparation)

Selected Talks

- “Algorithmic solutions to topological questions about closed geodesics on surfaces” 1118th AMS Meeting, Stony Brook University, NY, 2016
- “Combinatorial and algorithmic questions in low dimensional topology” Wesleyan University, CT, 2015
- “The geometry and combinatorics of filling curves” The Ahlfors-Bers VI Colloquium, Yale University, RI, 2014
- “The geometry and combinatorics of filling curves” Hyperbolic Geometry Seminar, CUNY Graduate Center, NY, 2014
- “Configuration spaces of hyperbolic polygons” Hyperbolic Geometry Seminar, CUNY Graduate Center, NY, 2013
- “Converting curves into combinatorics” Graduate Student Seminar, Stony Brook University, 2013
- “An introduction to the Mapping Class Group” Graduate Student Seminar, CUNY Graduate Center, 2012
- “An algorithm for computing minimal intersection numbers” Hyperbolic Geometry Seminar, CUNY Graduate Center, NY, 2012

- “Visualizing Curves on Surfaces”
Math Club, Stony Brook University, NY, 2010

Software

- **Curve Combinatorics** - a collection of Java and Python programs to analyze intersection patterns of curves on surfaces (available on my github).

COMPUTER SKILLS **Java, Python, L^AT_EX**, SQL, C++, IDL, R, javascript, Matlab