

Benjamin Edelman

Education

- 2014-present **Princeton University**
A.B. Mathematics, expected 2018, GPA: 3.86
Coursework includes: Lower Bounds for Computational Models, Locally Decodable Codes, Computational Complexity, Advanced Algorithm Design, Quantum Computing, Information Theory, Theory of Computation, Abstract Algebra, Topology, Advanced Logic, Fourier Analysis, Complex Analysis, Real Analysis, Knot Theory
- 2011-2015 **West Windsor-Plainsboro High School North**
National Merit Scholar Finalist, National AP Scholar, 2015

Research

- 2017-present **Time-space lower bounds for learning**
Conducting research for senior thesis, advised by Ran Raz
- 2016-2017 **Matrix rigidity research**
In submission: "[Matrix rigidity and the Croot-Lev-Pach lemma](#)", with Zeev Dvir
- 2015-2016 **Member of [Arora Research Group](#) on unsupervised learning with provable guarantees**
Topics: dictionary learning on semantic vectors, tractability of boolean satisfiability instances for verification, convolutional kernel networks
- 2013-2014 **Algorithm Design for [SIGGRAPH Program Committee](#)**
Developed software used to administer SIGGRAPH and SIGGRAPH Asia program committee meetings, incorporating novel solution to optimization problem
- 2013-2014 **Approximation Algorithms Research**
Researched approximation algorithms for hypocoloring interval graphs, advised by Rajiv Gandhi of Rutgers University

Teaching and Outreach

- 2013-present **Lecturer and Mentor at [Program in Algorithmic and Combinatorial Thinking](#)**
Topics of lectures have included tree metrics and interactive proof complexity
- 2016-present **MathReach**
Teach recreational mathematics to high schoolers in Trenton School District
- 2016-present **Julia Robinson Math Festival**
Teach recreational mathematics to local students in middle and high school
- 2017 **Princeton Splash**
Gave talk to high schoolers on Gödel's Incompleteness Theorems and Turing Machines
- 2016 **Junior Seminar on Knot Theory**
Presented lectures to fellow math majors on topics in knot theory
- 2014 **Co-founder of High School CTF**

Created an online computer science competition for high schoolers with over 2000 participants worldwide

Other Activities

- 2016 **President of Princeton University Mathematics Club**
Manage officers, oversee events, and interact with corporate sponsors
- 2017-present **Social Chair of Two Dickinson Street Food Co-op**
Organize social events for 50-person campus vegetarian co-op
- 2017-present **Princeton Student Climate Initiative**
Helped prepare white paper on carbon fee and dividend policy for state assemblyman
- 2017-present **President of Princeton Liars' Club**
Liars' Club is Princeton's venue for playing games of social deduction and deceit
- 2016-17 **President of Princeton Science Fiction Club**
Weekly science fiction short story discussion group