

## Will Shapiro

will.shapiro@gmail.com

### Education

**The Cooper Union**, New York, NY, September 2007-2013

B. Arch. With Honors

**The University of Chicago**, Chicago, IL, Fall 2005

Ph.D. Program in Mathematics

**Cambridge University**, Girton College, Cambridge, England, 2004-2005

Part III of the Mathematical Tripos

**Brown University**, Providence, RI, 2000-2004

Sc.B. With Honors in Mathematics

Honors Thesis: "Continued Fractions of Type  $[n, (1, 1, \dots, 1, 2n)]$ "

### Selected Work and Research Experience

**Spotify**, New York, NY, June 2015-Present, **Head of Research, Analytics**

I lead an interdisciplinary team of 10 researchers addressing high-variance questions that range across all parts of the company and include topics such as financial forecasting, user churn prediction, audience segmentation and content valuation. We draw on techniques from a wide range of scientific, mathematical and computational disciplines including machine learning, network/complexity science, statistics, algebra, topology, economics, and psychology.

**The Cooper Union**, New York, NY, September 2013-Present, **Adjunct Faculty**

Teaching in the second year (undergraduate) design studio, and masters (graduate) design studio, I develop and lead workshops on computational, parametric and data-driven design.

**Seed Scientific**, New York, NY, August 2014-June 2015, **Head of Research & Solution Lead**

As Head of Research, I developed an office-wide research program to fuel innovation. Additionally, I led and initiated research projects with commercial and/or strategic value to Seed Scientific, and authored patent applications.

As Solution Lead, I led interdisciplinary teams at Seed to build out custom solutions for our clients that encompassed data science, user experience design, data architecture and backend engineering.

**Seed Scientific**, New York, NY, July 2013-July 2014, **Data Scientist**

As lead data scientist, I developed the machine learning powering the AI behind Beats Music (acquired by Apple in August 2014), and regularly presented the work I developed to technical and non-technical executives at Beats Music.

**Balmond Studio**, London, UK, September 2011-June 2012, **Designer**

Researched the visualization of number theory, algebra and topology. Work includes writing custom software to create animations and interactive 4D visualizations and structural design of a new national landmark for Gretna, Scotland marking the border between Scotland and England.

**Brown University Mathematics Department**, Providence, RI, 2002-2004, **Researcher**

Completed self directed research projects in Category Theory, Computational Number theory, Sheaf Theory and the Geometry of Numbers.

## Honors and Awards

- :: AIA Henry Adams Certificate of Merit, 2013
- :: Appointed as a University Fellow at the University of Chicago, 2005
- :: Elected as Associate Member to Sigma Xi, The Scientific Research Society, 2004
- :: David Howell Premium for Excellence in Mathematics (Brown University Mathematics Department Award), 2004
- :: Attended the Institute for Advanced Studies/Park City Mathematical Institute summer conference as a sponsored undergraduate participant, 2002

## Selected Art and Design Projects

### **San Carlo Tangential Deformations**, Drawings, 2007-2012

These drawings explore curvature and deformational analytics in the work of Baroque architect Francesco Borromini. They have been exhibited in “Dark Map”, a group show curated by Devin Powers at Lesley Heller Workspace, New York City, and in “Drawing From The Archive: Analysis As Design”, an exhibition curated by Guido Zuliani and sponsored by The Graham Foundation, at The Arthur A. Houghton Jr Gallery, Cooper Union, New York City

### **Eight Cycle Study**, Video

Animation based on research into eight dimensional polytopes. Video exhibited at Lesley Heller Workspace, New York City as part of “Space Time” curated by Devin Powers

### **Nexus**, Textile, Created for Balmond Studio

Designed a textile based on geometric patterns generated by modular arithmetic. Textile exhibited at the Salone Internazionale del Mobile in Milan, 2012 as part of Wallpaper Magazines “Handmade” exhibition and featured in the August 2012 issue of Wallpaper.

### **Analemma**, Video, Created for Balmond Studio

Created an animation based on rotating points in 4 dimensional space. Video exhibited at the BOFFO Show House, 2012 in New York City.

## Publications

### **Construction Matters**, Published by powerHouse Books, 2016

Co-editor of Construction Matters, a book that examines the way architects understand and respond to technological innovation through the creation of new types of spaces, and the materials through which architectural ideas finds their physical realization.

