

# Branton Demoss

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## ABOUT

I'm a physics and mathematics student who likes computers, coffee, and bicycles.

## EDUCATION

### CU BOULDER

**BA IN MATHEMATICS AND PHYSICS**  
Expected May 2018 | Boulder, CO  
GPA: 3.8/4.0

### UNIVERSITY OF OXFORD

2016-2017 | Oxford, England  
Exeter College Visiting Student  
Mathematics and Theoretical Physics

## COURSEWORK

### GRADUATE

Quantum Computing  
Quantum Field Theory\*  
General Relativity\*

### UNDERGRADUATE

Classical Mechanics  
Quantum Mechanics  
Electromagnetism  
Real Analysis  
Abstract Algebra\*  
Topology\*  
Differential Geometry\*  
Number Theory\*  
Variational Calculus\*  
Discrete Maths  
Set Theory  
Data Structures  
Linear Algebra  
Calculus 1/2/3  
Differential Equations

\*Oxford, 2016-2017

## SKILLS

### PROGRAMMING

C++ • Shell Scripting • JavaScript  
Mathematica • Java •  $\text{\LaTeX}$  • Web design

### REAL WORLD

Bicycle maintenance • Espresso shots  
Perfect fried eggs • Mandarin • Ukulele

## EXPERIENCE

### CU MUSEUM OF NATURAL HISTORY | STUDENT ASSISTANT

Aug 2014 – May 2016 | Boulder, CO

- Designed educational science activities
- Community science outreach
- Inspired curiosity about natural world!

### RADIO 1190 | DJ - THE INTENTIONAL LISTENER

May 2015 – September 2016 | Boulder, CO

- Specialty show breaking music down lyrically and musically, getting people to think about why musicians make the choices they do
- Discuss current scientific and political issues
- Preach absurd proverbs

### TRIDENT | BARISTA

May 2016 – October 2016 | Boulder, CO

- Made delicious coffee and tea
- Ask you about your day  $\times$  fivemillionbillion

## RESEARCH

### MATHEMATICS | KNOT THEORY

June 2016 – Sep 2016 | Boulder, CO

- Wrote paper on introductory knot theory with applications to quantum field theory through the Yang-Baxter equation

### PHYSICS | COMPUTATIONAL PARTICLE PHYSICS

May 2015 – May 2016 | Boulder, CO

- Worked with Fermilab to show flaws in experiment using simulations
- Created new particle physics geometry code
- Cleaned up and documented large sections of standard codebase
- Published results

## AWARDS

|      |               |                                     |
|------|---------------|-------------------------------------|
| 2016 | National      | Gilman Scholarship                  |
| 2016 | Institutional | Dean's List                         |
| 2015 | Institutional | Dean's List                         |
| 2014 | Institutional | CU Esteemed Scholar                 |
| 2014 | High School   | International Baccalaureate Diploma |

## REFERENCES

### CATHY REGAN, PH.D | EDUCATION COORDINATOR

CU Museum of Natural History | cathy.regan@colorado.edu | 303.492.4843

### ROCHELLE RAVISHANKARA, MD | PHYSICIAN

Exempla Saint Joseph Hospital | rrvishan@comcast.net | 303.931.3798

### PETER JONES, PH.D | MANAGER

Trident | trident@indra.com | 303.827.6365