

# Alicia Zeng

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## EDUCATION

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### VANDERBILT UNIVERSITY

*B.A. Physics* - Major GPA: 4.00 *B.A. Philosophy With Honors*- Major GPA: 3.91

Nashville, TN

May 2017

### PEKING UNIVERSITY

GPA: 3.78

Beijing, China

Sep 2012 – June 2014

### YALE UNIVERSITY

Summer Session in Psychology and Cognitive Science

New Haven, Connecticut

July 2013 – Aug 2013

### OTHER ACADEMIC ACHIEVEMENTS

GRE: Quantitative 170/170 (96th percentile), Verbal 167/170 (98th percentile)

William and Nancy McMinn Honor Scholarship in Natural Sciences (Full Tuition Award)

Berry Undergraduate Prize for Excellence in Philosophy (Best Undergraduate Prize)

The College Scholars Honors Program in the College of Arts & Science

Magna Cum Laude

Sigma Pi Sigma, the National Physics Honor Society

Dean's List, Fall 2014 – Spring 2017

Phi Eta Sigma, the National Honor Society

Peking University Founder's Scholarship

Peking University Award for Extracurricular Excellence

## PROFESSIONAL EXPERIENCE AND RESEARCH

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### Physics of Living Matter Lab, University of Pennsylvania

Philadelphia, PA

*Advisors: Professor Vijay Balasubramanian, Dr Eve Armstrong*

Aug 2017 – Present

- Spearheaded new research utilizing dynamical systems methods to extract topological and geometric information from reconstructed state spaces of bird vocalizations
  - Poster presentation: Alicia Zeng, Eve Armstrong & Vijay Balasubramanian (2019). A Nonlinear Dynamical Systems Approach to Birdsong Analysis. APS March Meeting Boston, MA
  - Impending publication: Alicia Zeng, Eve Armstrong, Marc Schmidt & Vijay Balasubramanian (2019). A Topological Approach to Extract Dynamical Information from Temporal Fine Structures of Bird Vocalizations.
- Ongoing project on using modulated Poisson models to study retinal adaptation with multi-electrode array data

### Berkeley Early Learning Lab

Berkeley, CA

*Advisor: Professor Fei Xu*

Jun 2017 – Aug 2017

- Refined experimental techniques and built new equipment for studying physical intuition and causal reasoning in infants
- Assisted in conducting experiments, receiving test subjects and families, and automating test subject recruiting processes

### Vanderbilt University, The Philosophy Honors Program

Nashville, TN

*Advisor: Professor Jeffrey Tlumak*

Jul 2015 – Aug 2015

- Explored the implications of AlphaGo's unprecedented rise to dominance in Go from the perspectives of philosophy of mind and cognitive science with emphasis on the emergence of the semantic from the syntactic
- Honors Thesis: Alicia Zeng, Jeffrey Tlumak (2015). Go Metaphors: Mind, Machine, and Meaning

### GSR Ventures

Beijing, China

*Summer Analyst*

Jul 2015 – Aug 2015

- Conducted research to assess potential investment opportunities in emerging technologies and presented periodic research reports to senior analysts
- Participated in meetings with potential clients and assisted in evaluating the viability of technology startups

### Cultural and Social Cognitive Research Laboratory, Peking University

Beijing, China

*Advisor: Professor Shihui Han*

Sep 2013 – Jan 2014

- Assisted in the implementation of fMRI-based experiments and provided support to lab technicians
- Conducted literature searches to support research on the neural basis of culturally specific self-construals

## TECHNICAL SKILLS

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|---------------------------------|----------|----------------------------------|
| • Nonlinear Dynamical Systems   | • Python | • Statistics/SPSS                |
| • Statistical Data Assimilation | • MATLAB | • LaTeX/Overleaf                 |
| • Machine Learning              | • C/C++  | • Photoshop/Illustrator/Premiere |

**Languages:** Mandarin Chinese(Native), English (Fluent), Spanish (Beginner)

**Activities:** Vanderbilt Next Steps Ambassadors Volunteer, Vanderbilt EVOLVE Leadership Program, ASB

**Interests:** Camping, Backpacking, Ballet, Classical Piano, Filmmaking