

# Baojia(Tony) Tong

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## Education

**Harvard University**, Massachusetts, MA  
Ph.D., Physics, expected 2018; M.A., Physics, 2014

**California Institute of Technology**, California, CA  
B.A. with honors, Physics, 2012

## Research Experience

### Harvard University

Optimize selection using Machine Learning Algorithms ( $W^\pm W^\pm W^\mp$ )	2017-present
Search for signal in multi-dimensional backgrounds (di-Higgs $\rightarrow b\bar{b}b\bar{b}$ )	2015-present
Develop and improve Hough Transform seeding in reconstruction (Muon)	2015-2016
Design and code monitoring software for reconstruction algorithms (Muon)	2015-2016
Organise and monitor data quality (Muon offline)	2015
Prospective study using boosted decision trees (di-Higgs $\rightarrow WW\tau\tau$ )	2014
Calibration of prototype detector chambers (Micromegas)	2014
Evaluate detector reconstruction performance (Muon Segment)	2012-2013

### California Institute of Technology

Analyze higher order behaviors in high energy physics data ( $W/Z$ + jets)	2011-2012
Design and thermal validation of an optical sensor for telescopes	2009-2010
Design and study of a financial market convergence experiment	2009-2010
Test novel methods of space launching	2008-2009

## Teaching Experience

Harvard Teaching Fellow, PhySci 12, Electromagnetism, Qscore 4.55/5	2017
Harvard Teaching Fellow, Physics 125, Widely Applied Physics, Qscore 4.33/5	2014
Harvard Teaching Fellow, Physics 16, Mechanics & Relativity, Qscore 4.47/5	2013
Caltech Teaching Assistant, Physics 50, Physics League	2011-2012

## Languages and Programming Skills

Chinese (native), English (proficient), French (elementary)  
C++, HTML,  $\text{\LaTeX}$ , Matlab, Mathematica, Python, ROOT