

Baojia(Tony) Tong

Boston, MA

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Skills

Languages Python, C++, SQL

Packages Pandas, Flask, NumPy, Sklearn, Seaborn, XGBoost, ROOT

Tools HTML, L^AT_EX, Bash, SVN, Git

Experience

Insight Data Science

Data Science Fellow

Boston, MA

Jun 2018–present

- Built a web-app to convert meeting audio into summary text in a fast, private and interpretable fashion
- Streamlined the Sphinx **audio recognition** software to convert sound files into text
- Integrated **natural language processing tools** including spacy for summarization and highlights

Harvard University

Ph.D. Student

Cambridge, MA; Geneva, Switzerland

Sep 2012–May 2018

- Searched for double Higgs Boson production at CERN's LHC, introduced novel signal regions to **triple the search sensitivity**, corrected translational modeling effect and **improved background modeling**; published as thesis
- Searched for rare triple boson signals, optimized event selection using XGBoost to double the search sensitivity
- Implemented a second order correction in Hough Transform extrapolation in C++, **reduced the fake local reconstruction rate** by 50%, and **saved hundreds of hours of computation time** every day
- **Designed live monitoring software** for reconstruction algorithms and detector performance, inspected and resolved bugs and detector malfunctions within days to maintain data quality
- **Organized weekly meetings** for monitoring software development, with a group of ten people across the international team
- Taught undergraduate analytical physics sections, introduction to electronics and experiment analysis in python, **received teaching awards** based on student reviews

California Institute of Technology

Undergraduate Student

Pasadena, CA

Sep 2008–Jun 2012

- Analyzed particle collision data, **measured fragmentation behaviors** in unprobed kinematic regions
- Developed an optical position sensor, validated its thermal stability under different conditions
- Designed double auction convergence experiments, **conducted twelve-people experiments in person**, analyzed time series data in Python; published paper

Education

Harvard University, Ph.D. in Physics

Sep 2012–May 2018

California Institute of Technology, B.A. with honors in Physics

Sep 2008–Jun 2012