Baojia(Tony) Tong

Cambridge, MA | +1 (617) 710-9767 | tongbaojia@gmail.com
github.com/tongbaojia | tongbaojia.github.io | linkedin.com/in/baojiatonytong

Skills

Languages Python, C++, SQL
Packages Pandas, NumPy, Sklearn, Tensorflow, Flask, ROOT
Tools HTML, LaTeX, Bash, SVN, Git

Experience

Kensho Techologies Boston, MA
Machine Learning Engineer Oct 2018–present

- Unified a text expansion model for synonym generation based on a structured text data
- Improved the expansion model's capability, raised recall from 40% to 80%
- Integrated the expansion model to customized service endpoints for different users

Kensho Technologies Cambridge, MA
Machine Learning Engineer Oct 2018–present

- Built **a general purpose synonym generator** based on Wikipedia open data
- Architected **automatic table extraction** software to extract tabular data from financial files
- Improved a tabular information ingestion and disambiguation pipeline for financial estimate data

Harvard University Cambridge, MA; Geneva, Switzerland
Ph.D. Student Sep 2012–May 2018

- Searched for double Higgs Boson production at CERN's Large Hadron Collider, 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 selections** using XGBoost to double the 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** with a group of ten people across the international team for one year long monitoring software development
- Taught undergraduate analytical physics sections, introduction to electronics and experiment analysis in Python, **received two teaching awards** based on student reviews

California Institute of Technology Pasadena, CA
Undergraduate Student Sep 2008–Jun 2012

- Analyzed particle collision data, **measured fragmentation behaviors** in unprobed kinematic regions
- Developed an optical position sensor, **validated sensor thermal stabilities** 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