Yinrui Liu

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EDUCATION

University of Chinese Academy of Sciences (UCAS)　　　　　**Sept. 2016-Present**

Bachelor of Science (Expected 2020)　　GPA: 3.91/4.00　　Ranking: 3/89

University of California, Berkeley (UC Berkeley)　　　　　**Jan. 2019-May 2019**

Berkeley Physics International Education (BPIE) Program　　GPA: 4.00/4.00

RESEARCH EXPERIENCE

University of Chinese Academy of Sciences (UCAS)　　　　　**Sept. 2019-Present**

Supervisor: Assoc. Prof. Wen-Bin Qian, Prof. Xiao-Rui Lyu

Project: Generalized software package for partial wave analysis using GPU acceleration

- Investigation into various software packages for Partial Wave Analysis (PWA)

- Use of TensorFlow to develop a generalized software package (Work-in-progress)

- Plan of applying the package to a specific decay to test the program and complete a PWA process

University of Manchester (UManchester)　　　　　**July 2019-Aug. 2019**

Supervisor: Dr. Marco Gersabeck

Project: Development of a visualization tool for Dalitz analysis

- Study into theories of isobar model for Dalitz analysis

- Visualization of the probability and phase distribution of three-body decays

- Improvement by adding more functions in the framework to study CP violation

University of California, Berkeley (UC Berkeley)　　　　　**Feb. 2019-July 2019**

Supervisor: Prof. Yury Kolomensky

Project: Search for the low-mass Higgs boson with data at BaBar

- Implementation of Multi-Layer Perceptron (MLP) and Boosted Decision Tree (BDT)

- Proficient use of TMVA and RooFit library in ROOT

- GUI building for the complete analysis process

- No significant sign of the existence of low-mass Higgs boson according to the current results

Supervisor: Asst. Prof. Hai-Chen Wang, Prof. Yury Kolomensky

Project: Repeating the process to detect Higgs boson in the diphoton decay channel

- Data analysis using data from ATLAS Experiment in 2011 and 2012

- Agreement with the results in the article published by ATLAS

University of Chinese Academy of Sciences (UCAS)   July 2018-Jan. 2019

Supervisor: Prof. Yang-Heng Zheng

Project: Study on different methods to measure the CKM angle gamma

- Literature research on an article newly published by LHCb collaboration

- Simulation and reconstruction of charm decays on the BES III Offline Software System (BOSS)

 (For further information on my research experience, please see my homepage https://yinruiliu.github.io)

SKILLS AND HOBBIES

Programming Skills

- Familiar with C, C++, ROOT (with RooFit, TMVA), Python, TensorFlow, LaTeX, HTML;
  Learning Shell Script, Verilog HDL.

Language

- Mandarin Chinese (fluent), English (advanced).

Other Hobbies

- Sketch, graphic design, snooker, basketball.

PUBLICATIONS AND AWARDS

Publications

- Y. Liu, M. Gersabeck, Dalitz Viewer, Zenodo (Dec. 4, 2019), https://doi.org/10.5281/zenodo.3562341

Awards and Fellowships

- **UCAS Overseas Graduate Studies Fellowship**: University of Chinese Academy of Sciences (UCAS) provides me with the tuition fees and living expenses of my first graduate year.