QICHEN DONG

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EDUCATION

University of Manchester September 2020 - September 2024
PhD Student in High Energy Physics *Manchester, UK*

· Expected September 2024

University of Manchester September 2018 - June 2020
Master of Physics *Manchester, UK*

· First Class Honours
· Overall GPA: 74.4
· Ranked 30th out of 150 students in the final year.

Shandong University September 2015 - June 2018
Bachelor of Science in Physics *Jinan, CN*

· Overall GPA: 83.3

RESEARCH EXPERIENCE

University of Manchester Sep 2020 - September 2024
PhD student *Manchester, UK*

· Supervised by Prof. Terry Wyatt FRS. Thesis submitted on 30th September 2024.
· Proposed, developed, implemented, and tested improved methods to identify the highly boosted pair production of the τ leptons in the lep-had channels — the electron-removal τ_{had} and the muon-removal τ_{had} reconstruction.
· Algorithms went through strict scrutiny, now running in Tier-0 ATLAS data processing system. These methods have been adopted by the ATLAS collaboration as the recommanded taggers for boosted $\tau_{\text{lep}}\tau_{\text{had}}$ identification.
· The muon-removal τ_{had} technique has been benchmarked with data, achieving a three- to four-fold improvement in the signal efficiency and signal-to-background ratio. ATLAS paper `TAUP-2023-02` is in ATLAS collaboration circulation.
· Single-handedly performing a search for resonant production of Higgs boson pairs in the highly boosted $bb\tau\tau$ channel `HDBS-2024-09`.
· Member of the Run 2+3 $H \to aa \to \mu\mu\tau_\mu\tau_{\text{had}}$ analysis, which uses the muon-removal τ_{had} reconstruction as a key ingredient.
· Three papers are scheduled to be published for the benefit of the ATLAS collaboration, in which I will be the primary author.
· Presented the TauCP group summary talk at the ATLAS 30th birthday week, 2022, Lisbon.
· Expert reviewer for the Run 2 ATLAS $H \to aa \to 4\tau$ analysis.

ATLAS experiment, CERN April 2022 - August 2022
Developer and Maintainer *Geneva, CH*

· Long-term-attached PhD student.
· Developer and reviewer for Athena, the ATLAS offline software. Senior shifter in the ATLAS software merge-requests review team.

University of Manchester September 2019 - June 2020
Master Project *Manchester, UK*

- Project supervised by Prof. Andrew Pilkington. Achieved 81%.
- Searching for extra source of CP violation with the Vector Boson Scattering (VBS) processes.
- One of the first to set preliminary limits on the Standard Model Effective Field Theory parameters in VBS processes.

WORK EXPERIENCE

Qube Research and Technology August 2022 - February 2023
Staffed Intern Quantitative Researcher *London, UK*

- Salaried internship.
- Main contributor to the 10-Q and 10-K financial reports similarity analysis using NLP techniques.
- Conducted a similar project on sentiment analysis of Japanese financial reports.
- Designed and developed novel algorithms to identify abnormal data in the financial time-series.

University of Manchester September 2020 - September 2023
Teaching Assistant *Manchester, UK*

- Demonstrator in the C++ / Python laboratories for year-2 and year-3 undergraduate physics students.
- Demonstrator in the year-3 particle physics laboratory for undergraduate students.
- Prepared a set of interactive electromagnetic field and radiation animations for the year-3 electrodynamics course. Used in the lectures and made available offline to the students to use and modify.

ADDITIONAL EXPERIENCE

Remote area in Sichuan June 2016 - September 2017
Volunteer Primary School Teacher *Sichuan, CN*

- Helped primary school students who live in remote area in Sichuan province during summer break.
- The team helped hundreds of children.

Shandong University September 2015 - June 2017
Lead of Student Union *Jinan, CN*

- Responsible for organising voluntary works hosted by the university.
- Managing a team of 20 SU undergraduate representatives.

SKILLS AND INTERESTS

Programming	Proficient in programming with C/C++ and Python
Teamwork	Strong communication skills in highly collaborative environments
Languages	Chinese (Native), English (Professional)
Interests	Graphic design, accelarated / distributed computing