

Alina Isobel Hagan.



## Education.

**2020–2024** PhD, Lancaster University, ATLAS Experiment.

- Particle Physics.
- Supervised by Vato Kartvelishvili.
- Extracting Gluon TMDs from  $J/\psi + \gamma$  in  $pp$ .

**2015–2020** MSc, University of Glasgow.

- First Class Masters in Physics.
- Masters project;
  - Measurement of  $b$ -jet substructure observables.
  - Exploration of novel isolation methods and Soft-Drop jet cleaning.

## Experience.

**2019** University of Glasgow.

- Nuclear and Hadron Physics research group.
- Supervised by Dr Simon Gardner.
- Applying GNNs for shower recognition at the Crystal Ball detector.
  - Utilising Graph Neural Network layers from recently published paper 1902.07987
  - Use a YOLO-style approach for image recognition to identify and separate and reconstruct overlapping showers.

## Projects.

**2022–NOW** terminal\_rendering

- A simplified implementation of a rendering engine, with minimal dependencies, designed to work on any unicode compatible terminal.

**2022–NOW** FINITE STATE

- A science fiction styled bridge operation game with an emphasis on complexity, technical knowledge of your craft, and operating procedure

## Talks.

**2023** Quarkonia as Tools 2023

- Inclusive quarkonium production – experimental overview.

**2022** ATLAS UK Annual Meeting 2022

- Precision physics with quarkonia.

**2022** Quarkonia as Tools 2022

- Quarkonium and TMDs in  $pp$  – past and future measurements.

## Academic Interests.

### Quarkonium Physics.

- $J/\psi$ ,  $D_i - J/\psi$ ,  $J/\psi + \gamma$ ,  $\Upsilon$  studies.
- TMD extraction.

## Other Interests.

- Photography, running, hobby programming, mechanical keyboards.


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