Mohamed Elashri

Email | Website | GitHub | LinkedIn

Cincinnati, OH

Education

University of Cincinnati *2020 - current*
Ph.D. | *Experimental Particle Physics* *Cincinnati, OH*
Focus | *LHCb - Machine Learning - Computing*

University of Minnesota, Duluth *2020*
M.S. | *Experimental Particle Physics*
Focus | *NOvA - Machine Learning*

Zewail University *2018*
B.S. | *High Energy Physics*
Focus | *CMS - Computing*

Skills

Programming Languages: C/C++ | Python | CUDA | Go | Rust
Machine Learning: PyTorch | Keras | JaX | CuDNN | TensorRT | ONNX Runtime
Developement Tools/Tech: Git | Docker | Linux
Soft: Leadership | Teamwork | Student Mentoring
Languages: English (Fluent) | Arabic (Native)

Experience

PhD Researcher | *University of Cincinnati* *2021 - Current*
Cincinnati, OH

- Leading analysis of rare B meson decays using **LHCb** dataset
- Developing Neural Network algorithms for particle tracking
- Building GPU-accelerated data acquisition framework

Research Assistant | *University of Minnesota* *2018 - 2020*
Duluth, MN

- Conducted magnetic monopole search at **NOvA** experiment
- Maintained core collaboration software packages

Teaching Assistant | *University of Cincinnati* *2020 – 2022*

- Led physics labs and problem-solving sessions
- Provided tutoring support in Physics Learning Center

Teaching Assistant | *University of Minnesota* *2018 – 2020*

- Managed grading for physics courses and labs
- Created learning resources and provided student support

Projects

Hadd-parallel | *ROOT Tool* *May 2019*

- Parallel processing **Python** module for merging ROOT files in

nmem | *Memory Monitor* *2024*

- Extended memory monitoring tool for Linux servers

txm | *Tmux Manager* *2024*

- CLI tool for efficient tmux session management

firewall | *UFW Manager* *2024*

- User-friendly interface for UFW firewall management

free-mac | *MacOS Monitor* *2024*

- Port of **free** GNU tool to MacOS

BBH Simulation | *Physics Tool* *2024*

- Binary black hole dynamics and gravitational Simulation **Python** package

BFit | *Physics Analysis* *2023*

- B physics fitting **Python** module

Ising Model | *Physics Simulation* *2022*

- Monte Carlo simulation of 2D Ising model with Numba acceleration

ROOT Action | *GitHub Tool* *2023*

- GitHub action for automating **ROOT** CERN script execution

arXiv Scraper | *NLP Tool* *2023*

- ArXiv abstract scraping **Python** module for NLP analysis

Volunteering

Student Advisor | *International Graduate Mentorship* *May 2019 - June 2020*

- Mentored international students in academic and cultural transition
- Coordinated with university departments for student support

Journal Club President | *Physics Club* *2013 - 2018*

- Founded and led university Physics Club promoting student engagement
- Organized technical lectures, workshops, and research activities