Mohamed Elashri

Website: melashri.net
Email: elashrmr@mail.uc.edu

EDUCATION

University of Cincinnati OH, US
Ph.D. in physics 2020–Current

- Thesis: "Work in progress"

University of Minnesota Duluth MN, US
M.S. in physics 2018–2020

- Thesis: "Search for Slow Magnetic Monopoles with the NOvA Far Detector"

University of Science and Technology, Zewail City Cairo, EG
B.S. in physics. 2013–2018

- Thesis: "Strip Hit Resolution of CMS Tracker Analysis"

RESEARCH EXPERIENCE

University of Science and Technology, Zewail City Cairo, EG
Undergraduate Research Assistant 2017–2018

- CMS Collaboration
- CMS Data analysis and Hardware training
- Worked on upgrading CMS tracker algorithm.

University of Minnesota, Duluth MN, US
Graduate Research Assistant 2018–2020

- NOνA Collaboration
- Worked on search for magnetic monopole in NOνA Far detector
- Exotics analyses group member
- Developed and maintained a general analysis package for exotics analyses

PUBLICATIONS

[1] M. Elashri, "Search for Slow Magnetic Monopoles with the NOνA Far Detector", English, Fermi National Accelerator Lab. (FNAL), Batavia, IL (United States), Tech. Rep. FERMILAB-MASTERS-2020-01, Jan. 2020.

[2] N. Khaled and M. Elashri, "Magnetically charged black hole", en, *J. Phys.: Conf. Ser.*, vol. 1253, p. 012 008, Jun. 2019, Publisher: IOP Publishing 0 citations (Inspire/DOI) [2021-01-24], ISSN: 1742-6596.

[3] M. Elashri, "Strip hit resolution of CMS Tracker analysis", Ph.D. dissertation, Jun. 2017.

TEACHING

University of Cincinnati OH, US
Physics Teaching Assistant 2018–2020

- Teach introductory physics labs and promote students linking between theoretical development and nature facts
- Helping conduct problem solving sessions and Physics tutoring center

- Grading assignments and tests, documenting results and informing lead teacher of students performance

University of Minnesota, Duluth MN, US
Physics Teaching Assistant 2018–2020

- Supported instructors with test administration, curriculum development, and assignment grading
- Encouraging dynamic and pleasant educational environment by promoting both gentle discipline and Physics
- Supported student learning objectives through personalized and small group assistance to support classroom instruction
- Graded assignments and tests using answer key, documented results and informed lead teacher of students' performance

SKILLS

- **Programming:** Python, Mathematica, C/C++, R,
- **Machine Learning:** PyTorch, TensorFlow, Keras
- **Particle Physics:** Pythia, Geant4, MadGraph, ART
- **Tools/Techs:** LaTeX, Git, Linux
- **Soft:** Leadership, Time management, Teamwork

LANGUAGES

- **English:** Proficient
- **Arabic:** Mother tongue, Native speaker

PROJECTS

- **Analysis of Type Ia supernovae data** (Data Analysis, 2019)
  Revisiting Supernovae 1999 data and reproduce the results

- **Arxiv abstracts scraper python library** (Python, 2021)
  A python module for scraping arxiv abstracts for NLP testing purpose

- **Analysis of Earthquake Time Series Data using Machine Learning** (Machine learning, 2019)
  Applying different ML algorithms on time series dataset and implementing the new linear neural differential method

- **Estimating the Age of universe using galaxies distance and velocity data** (Data Analysis, 2021)
  Calculating hubble constant and calculate age of universe using sklearn model from galaxies distances and velocities

TALKS AND PRESENTATIONS

Physics Club Meeting, Zewail City (April –2016)
Talk: Parton Model

University of Science and Technology Seminar, Zewail City (Mar –2017)
Talk: Physics Program at Zewail City, Introduction for Prospective Students

Physics Club meeting, Zewail City (Sep –2018)
Talk: Magnetic Monopoles, Dirac's Dream

Physics Seminar, University of Minnesota Duluth (Feb –2019)
Talk: An Introduction to Magnetic Monopole

Physics Seminar, University of Minnesota Duluth (Feb –2019)
Talk: Search for Magnetic Monopole using NOνA Far Detector

Physics Seminar, University of Minnesota Duluth (Mar –2019)
Talk: Dark Matter Search in NOνA Near Detector

Physics Seminar, University of Minnesota Duluth (Feb –2019)
Talk: An Introduction to Magnetic Monopole

Physics Seminar, University of Minnesota Duluth (Jan –2020)
Talk: Introduction to Magnetic Monopole

Physics Seminar, University of Minnesota Duluth (Feb –2020)
Talk: Magnetically Charged Black Holes

Volunteering & Mentoring

- Founder of Physics Club Zewail University   2013–2018
  Founder and the president of physics club at USD
- Student mentor at UMD   2019 –2020
  Member of the program aims to assist incoming international students with their transition to UMD.