

EDUCATION

University of Cincinnati Ph.D. in physics – Thesis: “Work in progress”	OH, US 2020–Current
University of Minnesota Duluth M.S. in physics – Thesis: “Search for Slow Magnetic Monopoles with the NOvA Far Detector”	MN, US 2018–2020
University of Science and Technology, Zewail City B.S. in physics. – Thesis: “Strip Hit Resolution of CMS Tracker Analysis”	Cairo, EG 2013–2018

RESEARCH EXPERIENCE

University of Science and Technology, Zewail City Undergraduate Research Assistant – CMS Collaboration – CMS Data analysis and Hardware training – Worked on upgrading CMS tracker algorithm.	Cairo, EG 2017–2018
University of Minnesota, Duluth Graduate Research Assistant – NOvA Collaboration – Worked on search for magnetic monopole in NOvA Far detector – Exotics analyses group member – Developed and maintained a general analysis package for exotics analyses	MN, US 2018–2020

PUBLICATIONS

- [1] M. Elashri, “Search for Slow Magnetic Monopoles with the NOvA 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. 012008, 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 Physics Teaching Assistant – Teach introductory physics labs and promote students linking between theoretical development and nature facts – Helping conduct problem solving sessions and Physics tutoring center	OH, US 2018–2020
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- Grading assignments and tests, documenting results and informing lead teacher of students performance

University of Minnesota, Duluth

Physics Teaching Assistant

MN, US

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
- **NOvA experiment DDTPrescale calculation package** (C++, 2019)
 - Calculate the average prescale per SubRub for the data acquired by nova experiment, used by various exotics analyses.
- **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
- **Arxiv abstracts scraper python library** (Python, 2021)
 - A python module for scraping arxiv abstracts for NLP testing purpose
- **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 NO ν A Far Detector

Physics Seminar, University of Minnesota Duluth (Mar –2019)

Talk: Dark Matter Search in NO ν A 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 Zewail City
- Student mentor at UMD 2019 –2020
Member of the program aims to assist incoming international students with their transition to UMD.