Ziad Mekawy

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OBJECTIVE

Enthusiastic and driven Computer Science student with a solid background in backend development, seeking opportunities to enhance technical proficiency and contribute meaningfully within dynamic, cross-functional teams.

EDUCATION

BS, Computer Information Science.   *Starting Oct. 2024 - Present*
EGYPT UNIVERSITY OF INFORMATICS (EUI)   *NEW ADMINISTRATIVE CAPITAL, EG*

Work Experience

Undergraduate Research Assistant   **Jan 2022 – Oct 2022**
Center for Astrophysics | Harvard & Smithsonian   *Remote/Hybrid*

- Contributed to simulations of **neutron star mergers** and relativistic astrophysical phenomena.

- Published a research paper titled *"Depicting a Black Hole Merger: A Bridge Between Einstein Toolkit and* GYOTO*,"* focusing on ray tracing techniques and the use of spectral methods in visualizing black hole binaries.

- **Developed** and **tested** a custom plugin for Glue, a multidimensional linked-data exploration tool, to support satellite imagery integration.

- Gained hands-on experience with scientific computing tools including **GYOTO**, **Glue-Viz**, **MATLAB**, and advanced techniques in **data visualization**, **theoretical modeling**, and **computational astrophysics**.

Customer Service Specialist   **Feb 2024 – Oct 2024**
Teleperformance Egypt   **New Cairo, Egypt**

- Delivered technical support and customer care in a high-volume environment, enhancing client satisfaction and retention.

- Developed strong interpersonal and communication skills, including objection handling, negotiation, and persuasive problem-solving.

- Demonstrated multitasking and adaptability while managing diverse customer needs and resolving issues efficiently.

RESEARCH INTERESTS

I am deeply engaged in the intersection of theoretical astrophysics and computational science, with a particular focus on relativistic compact object mergers, high-energy phenomena, and gravitational wave astrophysics. My interests lie in employing large-scale numerical simulations and high-performance computing to model black hole coalescence, explore particle interactions in extreme environments, and analyze the resulting multi-messenger signals. I aim to advance my understanding of cosmological structure formation and the evolution of matter distribution by integrating observational datasets with simulation-based inference, contributing to the broader effort of decoding the large-scale architecture of the universe.

SKILLS

- Programming languages: Fortran, Python, Ruby, MATLAB, C/C++
- Operating Systems: Mac OS, Linux, Windows
- Software: Glue-viz, Gyoto, CIAO 4.17, LaTeX
- Tools: Git, Anaconda, Git Kraken, Docker(Intermediate), Postman(Intermediate)
- Libraries: Numpy, Scipy, Tensorflow, PyTorch, Tkinter, Matplotlib, Visual python, Ruby on Rails(Beginner)

EXTRACURRICULAR ACTIVITIES & OUTREACH

Organizing Committee Head, Stellaris Astronomy Club, EUI   **Nov 2024 - Present**
- Led the planning and execution of astronomy-related events, workshops, and public outreach programs.
- Managed logistics, coordinated with guest speakers, and oversaw a team of volunteers to ensure smooth event operations.
- Fostered a collaborative environment that encouraged student engagement in space science and observational astronomy.

Founder & Director, Cosmic Horizons Initiative (CHI)   **Founded: Late 2023 - present**
- Established an interdisciplinary platform to inspire curiosity, foster exploration, and promote innovation in astronomy and space science.
- Developed CHI's mission to champion diverse perspectives, encourage risk-taking, and support cross-disciplinary research and dialogue.
- Organized public talks, collaborative research discussions, and outreach campaigns to engage students and early-career researchers.

Public Relations Officer, IEEE-EUI Student Branch   **Nov 2024 – Present**
- Acted as the primary liaison between the organization and external stakeholders, including professors, sponsors, and partner institutions.
- Secured sponsorships and built strategic collaborations with other university chapters to support technical events and conferences.
- Strengthened the organization's visibility through targeted outreach and communication strategies.