

Cover Letter

Dear Sir,

-My name is Shymaa M Arafat, I'm an Associate Professor in Computer Science and Engineering. I've graduated(94), received my Master(97) and then PhD(2001) from Computer Science and Systems Engineering department, Faculty of Engineering, Alexandria University, Egypt. I worked for about 9 years in Computer Science department, Faculty of Computer & Information Sciences, Ain Shams University, where I got my Associate Professor rank 7/2008; I taught in a lot of other universities too as detailed in my CV. Before that, I worked in a research institute (RA, from 4/95 to 30/9/1999). I Also had a chance to spend 2 weeks in SMU university as part of a post-doctoral research grant on 2005.

-I'm seeking a new peaceful beginning, in another country, without any intruders. I'm a single person and I have no children, no attached family strings or responsibilities.

-Attached to this application is the following PDF files: CV, teaching statement, and research statement. You will read in the files that I haven't been working since 2012 for some personal reasons; although this seems like a drawback in competition, if you examine the details will find that this gave me the time and motive to approach new topics and try as hard as I can to read new papers (or watch their presentations), and study available online free courses from top ranked universities. The published written material reflects the level of knowledge and experience I have acquired; some of which is peer-reviewed; other is evaluated by Berkeley University MOOC staff, and all is available for you to judge & evaluate.

-I hesitated where to submit between Computer Science department and Cyber Security department; I believe my work is kind of in an overlapping area. I admit I have no ability to conduct research and/or teach courses handling technicalities of the down network layers; however, I think topics like e-voting, zero-knowledge proofs, some cryptographic tools in consensus protocols like Verifiable Random Functions VRFs and/or Verifiable Delay Functions VDFs will be taught/researched by the Cyber Security department. In any case, you do have my application in both departments.

-I did not make a new contribution in AGT (Algorithmic Game Theory); however I made a condensed summary post with all my readings and resources (https://m.facebook.com/story.php/?id=100010333725264&story_fbid=1018702451817536). I've also tackled some research threads that can be starting points for post graduate students; the land pieces idea could have led to contribution (joined with the graph reduction rules in the research statement); the deceased organ donation model material could at least make a comparative study for models and metrics worldwide and I believe there's still room for new

results (here's an attempt to call for book chapters that include an earlier short video I've made:

https://www.researchgate.net/post/Call_for_Book_Chapters_on_Deceased_Organ_Donations_as_an_interdisciplinary_science_information_Systems_Game_model_AI

-Anyways, I got more involved in cryptocurrencies and Blockchains related fields. I studied the old Princeton course dated 2016, MIT course 2018, the Berkeley DeFi MOOC course 2021, Berkeley ZKP MOOC 2023, Nicosia University MOOC courses (Introduction to Digital Currencies & DeFi) in 2023; I kind of explored their web3 entrepreneur course (especially tokenomics lectures); I watch and read a lot from a16z crypto group, Prof. Tim Roughgarden "Foundations of Blockchains" lectures, and have read some CBDC papers. Then, I've navigated the e-voting space and still there uptill now as it shows from medium articles; although no peer-reviewed papers are published yet.

Currently at this very moment, I'm waiting for reviewers decision on the revised version of my Blockchain Consensus paper: in Cyber Security journal (Springer Verlag) and SBC'25 (doesn't impose copyrights and accepts published papers). I'm currently working on my paper about the Estonian i-voting system (I've done major revision, in addition to every reviewer comment of E-Vote-ID'24, and will continue before I try to resubmit it in 2025). I also have another idea about "in-booth e-voting with hardcopy receipts" that still needs more refinement. All preprints are available on Researchgate and links are included in the application.

I find all those fields I've mentioned very rich in teaching and research material, there are also many respectable discussion boards and research groups, online conferences, arXiv papers, GitHub projects, even twitter contain some Scientific discussions and research ideas; especially cryptocurrencies and Blockchains never stop impressing me with something new.

Still, I do have the old classical primitives that don't change with time, I believe I can teach and/or supervise post graduate students in a variety of courses as detailed in the attached files; this link includes some images of previous activities
(https://m.facebook.com/story.php/?id=100010333725264&story_fbid=1997861443901627).

Remarks:

-I think it's worth mentioning that I also used some of my time to take free studies in Law (from Fall 2012 to Spring 2014) to help me in a personal lawsuit. I could say now the courses I studied there helped me get some insights when studying interdisciplinary material like the regulations of DeFi, the liabilities & copyrights in NFTs & Metaverses, and also contained 2 economy courses that helped in establishing some financial concepts in the background of my mind. I

tried to approach law professors for joint research in such topics, but unfortunately didn't succeed in that.

-I think. I should inform you that I got an official "Notification" in my record file about 2003/2004 that was omitted afterwards. The reason was that the dean asked for extra duties of supervising labs of courses that I don't teach (Although there were lab engineers responsible of labs maintenance, he wanted to have the presence of a doctor (assistant professor) in every building incase of any unexpected events. I was living in Alexandria more than 200kms away and come 3-4 days for my lectures, office hours,...etc. (there were no staff residency to have a permanent stay with a rent, and I kept searching for another academic opportunity in Alexandria) ; he did not like those fact and kind of was closely observing my attendance. Later I managed to rent an apartment and stayed permanently in Cairo only visiting Alex every now & then, and the dean changed in 2006; so for many reasons the "Notification" was removed on my record.

-If I was accepted in this job, it would be a completely different country; I assume the university will help me find a decent staff suitable residency whether in campus or near the university; ie, the problem origins won't exist.

I hope this will be the beginning of collaborative work.

Thank you very much for your time,

Sincerely,

Shymaa M Arafat

April 8th, 2025

Links to Proofs

-Link to academic records certificates, and some teaching letters scanned:

https://www.facebook.com/story.php/?id=100010333725264&story_fbid=1610880372599738

-Links to conference acceptance or attendance proofs, and the BA research grant proof:

https://m.facebook.com/story.php/?id=100010333725264&story_fbid=1997861443901627

-Copies of my PhD and many important documents are all available on GitHub DrShymaa2022

<https://github.com/DrShymaa2022>