Cover Letter

Dear Sir,

-My name is Shymaa M Arafat, I've earned an Associate Professor degree in Computer Science in 2008 while working at Faculty of Computer & Information Sciences (FCIS), Ain Shams University. I've graduated (7/1994), received my Master (7/1997) and then PhD (7/2001) from Computer Science and Systems Engineering department, Faculty of Engineering, Alexandria University, Egypt.

I worked for about 9 years in Computer Science department of FCIS, Ain Shams University; 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 in USA 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 are 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 (since 2018/2019) to approach new topics and try as hard as I can to read new papers, and study available online free material specially courses from top ranked universities. The published written material, and the exams some of those courses provide, reflect the level of knowledge and experience I have acquired; some of which are peer-reviewed; others are evaluated by Berkeley University (and/or Nicosia University) MOOC staff, and all is available for you to judge & evaluate. This covers topics around cryptocurrencies & DeFi, blockchains in general, Zero Knowledge Proofs (ZKPs), and finally e-voting area with its overlapping with ZKPs and blockchains. There are also other topics that I've worked my way around:

-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* (sub-additive property does not apply for adjacent pieces) could have led to something (joined with the graph reduction rules in https://economics.stackexchange.com/questions/36049/reduction-rules-for-auction-conflicting-deals)); 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:

); maybe

-Anyways, I got more involved in **Cryptocurrencies and Blockchains** related fields. I studied the old Princeton course dated 2016, MIT course 2018; then got enrolled in (and passed as detailed in the CV) the Berkeley DeFi MOOC course 2021, Berkeley ZKP MOOC 2023, Nicosia University MOOC courses (Digital Currencies and DeFi) in 2023 and Web3 in 2025. I kind of explored Berkeley web3 entrepreneur course (especially tokenomics lectures), Prof. Tim Roughgarden "Foundations of Blockchains" lectures, and I regularly watch/read a lot from a16z crypto group, Science of Blockchains Conferences (SBC) and other related conferences (IFCA, Crypto-Economics, ..); all of this helped me write an accepted paper (to appear in 2026) in Springer Cyber Security Journal "*A Study of Blockchains Consensus*" as listed in my resume.

-I've also tackled some related topics on my medium articles like *CBDCs*, *metaverses*, *the risks of Client-Side Scanning*; also, *blockchain applications in the water sector* is a preprint I haven't pursued further.

-Then I got involved in the **e-voting** space and am still there up till now. I'm presenting 3 posters in EVoteID'25; one of which is a rejected WIP paper rejected by the same conference, the 2 others on the Estonian i-voting system are parts of my long paper (rejected also, but I believe unfairly since I have really invested a lot of effort on it). All preprints are available on Researchgate, GitHub, and some are in IACR; links are included in the CV.

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 from 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

Sep 22nd, 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