Mohammad Majid Akhtar

Email: majid.akhtar@unsw.edu.au
akhtarmajid273@gmail.com
Phone: (+61 422650434), (+91) 97167 77919
https://mohdmajidakhtar.github.io/
Google Scholar Profile (Link)

Research Interests

Mis/Disinformation and Social Bot Detection, Malicious Campaign Detection, Security, Privacy, Machine Learning, Blockchain, Distributed Ledger Technology, Internet of Things

Education

Doctor of Philosophy (Ph.D.) 2022–Ongoing
Computer Science and Engineering
University of New South Wales, Sydney Campus, Australia

- Research Topic: "Early and Accurate Detection and Verification of Fake Accounts and Campaigns in Social Media"
- Supervisory Team: Prof. Salil Kanhere (CSE, UNSW), Dr. Muhammad Ikram (CSE, Macquarie University) and Dr. Rahat Masood (CSE, UNSW)

Master of Technology (M. Tech) 2018–2020
Computer Engineering
Jamia Millia Islamia, A Central University, New Delhi, India

- C.G.P.A/Grade: 9.76/10, **Gold Medalist**
- Advisor: Mr. Danish Raza Rizvi (Assistant Professor of Computer Engineering)
- Dissertation: "Investigation in Blockchain-DLT Environment and Integration with Internet of Things"

Bachelor of Technology (B. Tech) 2014–2018
Computer Science and Engineering
Al-Falah University, Haryana, India

- Percentage/Grade: 82.88%, **First Division with Honours, Silver Medalist**
- Project Title: "In Vitro Fertilization (IVF) Diagnosis Health Care System"

Research Experience

University of New South Wales Sydney, Australia
Developed an automatic annotation model for fake news 2022-Present

- Developed an annotation model for increasing fake news dataset from social media posts using fact checked statements. In addition, proposed a stacked ensemble model for fake news detection.

Developed a contrastive learning-based social bot detection model

- Developed a novel social bot detection using self-supervised contrastive learning to detect sophisticated bots mimicking humans. In addition, improved the generalizability and adversarial robustness of the model.

Visiting Scholar at Macquarie University Sydney, Australia
Working on Identification and Detection of Fake accounts and Campaigns in OSN 2024-Present

Jamia Millia Islamia, A Central University New Delhi, India

Implemented Proof of Concept of BAuth-ZKP protocol for secure login

- Developed a new model of authentication service like OAuth (Open Authentication) using Ethereum Blockchain and added a Zero Knowledge Proof mechanism for secure login without sharing actual credentials.

Publications

1. **M. M. Akhtar**, Sharma, B., Karunanayake, I., Masood, R., Ikram, M., Kanhere, S. S. (2022). "Towards Automatic Annotation and Detection of Fake News". *IEEE 48th Conference on Local Computer Networks (LCN), Florida, USA (October 2023)*, (CORE Rank B)

2. **M. M. Akhtar**, Masood, R., Ikram, M., Kanhere, S. S. (2023). "SoK: False Information, Bots and Malicious Campaigns: Demystifying Elements of Social Media Manipulations". *19th ACM ASIA Conference on Computer and Communications Security (ACM ASIACCS 2024), Singapore (July 2024)* (CORE Rank A).

3. **M. M. Akhtar**, Bhuiyan, N. S., Masood, R., Ikram, M., Kanhere, S. S. (2024). "BotSSCL: Social Bot Detection with Self-Supervised Contrastive Learning". *arXiv preprint arXiv:2402.03740.*

4. **M. M. Akhtar**, D. R. Rizvi, Ahad, M. A., Amjad, M., Salil S. Kanhere and G. Coviello, "Efficient Data Communication Using **Distributed Ledger Technology** and IOTA-Enabled Internet of Things for a Future Machine-to-Machine Economy", *MDPI Sensors* (June 2021), 21 (13), 4354. Impact Factor: 3.2

5. **M. M. Akhtar** and D. R. Rizvi, "Traceability and detection of counterfeit medicines in pharmaceutical supply chain using **blockchain-based architectures**", in *Sustainable and Energy Efficient Computing Paradigms for Society*, M. A. Ahad, S. Paiva, and S. Zafar, Eds. Cham: Springer International Publishing, 2021, pp. 1–31, isbn: 978-3-030-51070-1

6. **M. M. Akhtar**, M. Z. Khan, Ahad, M.A., A. Noorwali, D. R. Rizvi and Chakraborty, C, "**Distributed Ledger Technology** based Robust Access Control and Real-Time Synchronization for Consumer Electronics", *PeerJ Computer Science* (May 2021), 7, e566. Impact Factor: 3.09

7. **M. M. Akhtar** and D. R. Rizvi, "Iot-chain: Security of things for pervasive, sustainable and efficient computing using **blockchain**", *EAI Endorsed Transactions on Energy Web*, vol. 7, May 2020

Seminars and Tutoring

- Academic Tutor for **ZZEN9203 - Principles of Security Engineering** at UNSW (Hex 5 2023).
- Academic Tutor for **COMP3331 - Computer Networks and Applications** at UNSW (Term 1 2024).
- Academic Marker for **COMP9020 - Foundation of Computer Science** at UNSW (Term 1 2024).
- Host a **Cyber-Security Reading Group** in association with IFCYBER, UNSW (2023 - Present)
- Took successive seminars on **"Detailed Investigation & Idea behind Cryptocurrencies and Deployment of Tokens on Ethereum Blockchain"** at the Departmental level. (2019)

Services

- **Reviewed Manuscript** at "Sustainable Cities and Society"
  Impact Factor: 10.696
- **Verified Reviewer** at "IEEE Internet of Things Journal" (Publon Link)
  Impact Factor: 9.5
- **Reviewed Manuscript** at "Scientific Reports, Nature"

Impact Factor: 4.99

- **Reviewed Manuscript** at "IEEE Transactions on Network and Service Management"
  Impact Factor: 4.758
- **Reviewed Manuscript** at "Cluster Computing, Springer"
  Impact Factor: 4.4
- **Reviewed Manuscript** at "IEEE Consumer Electronics Magazine"
  Impact Factor: 4.135

Scholarships and Awards

- Received 'Student Participation Grant' from IEEE LCN Conference Committee 2023 — 2023–2023
- Recipient of Fully-funded Tuition Fee Scholarship (TFS) plus Stipend Award for Ph.D. in Australia — 2022–2026
- Selected for the LEVEL I DST-INSPIRE Fellowship, India — 2021–2022
- International English Language Testing System (IELTS) Academic, Overall 7.5 Band — 2021–2023
- University Gold Medalist in Master of Technology (Jamia Millia Islamia University, New Delhi, India) — 2018–2020
- University Grants Commission PG-GATE Fellow, India — 2019–2020
- GATE (Graduate Aptitude Test in Engineering) cleared in CSE — 2019–2022

I hereby declare that all the above information is correct and accurate. I solemnly declare that all the information furnished in this document is free of errors to the best of my knowledge. I hereby declare that all the information contained in this resume is in accordance with facts or truths to my knowledge.

Mohammad Majid Akhtar

Date: 12 March 2024