SARWAN ALI

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Github Profile [1] , Google Scholar Profile [2]   Linkedin Profile [3] , ORCID ID [4]

RESEARCH INTERESTS

- Machine Learning, Artificial Intelligence, Data Mining, Algorithms, Bioinformatics, Combinatorial Optimization

EDUCATION

- Georgia State University, Atlanta   January 2021 - June 2026
  Ph.D (Computer Science) , **Advisor:** Murray Patterson

- Lahore University of Management Sciences (LUMS), Lahore   August 2016 - June 2018
  M.S (Computer Science)

  - **MS Thesis Title:** Predicting Attributes of Nodes using Network Structure
    Status: Published in ACM Transactions on Intelligent Systems and Technology (TIST), (2020)

- University of Engineering and Technology (UET), Peshawar   August 2012 - June 2016
  B.S (Computer Science)

  - **BS Thesis Title:** Cache Replacement Algorithm

RESEARCH EXPERIENCE

- University of Newcastle, NSW, Australia   March 2020 - Present
  - ***Research Collaboration***
    I am currently working on a research project with Professor Pablo Moscato (https://www.newcastle.edu.au/profile/pablo-moscato) and Dr. Luke Mathieson (https://www.uts.edu.au/staff/luke.mathieson).

    * **Sarwan Ali**, Luke Mathieson, and Pablo Moscato. "A Memetic Algorithm To Find a Hamiltonian Cycle in a Hamiltonian Graph" Preprint (2020)
      URL: https://drive.google.com/file/d/1W_VvGVrUot0EtBlRdKtReuCWtkUUOReY/view?usp=sharing

- Lahore University of Management Sciences (LUMS), Lahore, Pakistan   July 2018 - Present

  - ***Research Associate*** (Data Analytics Lab, **URL:** https://lums.edu.pk/labs/data-analytics-lab)

    * **Sarwan Ali**, Haris Mansoor, Imdadullah Khan, Naveed Arshad, Muhammad Asad Khan, and Safiullah Faizullah. "Hour-Ahead Load Forecasting Using AMI Data." Under review
      URL: https://arxiv.org/abs/1912.12479
    * **Sarwan Ali**, Imdadullah Khan, Muhammad Asad Khan, and Safiullah Faizullah. "Fake News Detection using Graph Representation" Preprint
    * Naimat ullah, **Sarwan Ali**, Muhammad Ahmad, Imdadullah Khan, Muhammad Asad Khan, and Safiullah Faizullah. "Context-Aware contribution calculator: Rating Players in Limited Overs Cricket". Under review
    * Nimrah Mustafa, **Sarwan Ali**, Zartash Uzmi, Imdadullah Khan, Muhammad Asad Khan, and Safiullah Faizullah. "Social Community Based Content Caching in Wireless Networks". Under review
    * Muhammad Ahmad, **Sarwan Ali**, Muhammad Haroon Shakeel, Imdadullah Khan, Arif Zaman, and Asim Karim. "Efficient Data Analytics on Augmented Similarity Triplets." Preprint (2020)
      URL: https://arxiv.org/abs/1912.12064
    * **Sarwan Ali**, Imdadullah Khan, and Muhammad Asad Khan. "Detecting Slow Ternary Content-Addressable Memory (TCAM) exhaustion Attack on SDN Due to Vulnerabilities in OpenFlow". Preprint (2020)

- CECOS University, Peshawar, Pakistan   July 2020 - Present
  - ***Research Collaboration***

    * **Sarwan Ali**, Abdul Haseeb. "Universities Ranking System Using Self and Cross Proclivity". Preprint (2020)

- Higher Education Commission (HEC), Islamabad, Pakistan   March 2020 - Present
  - ***Data Analytics Project***
    Project of HEC to predict the final marks of higher secondary school students using their previous years performance. This prediction is necessary because of cancellation of final exams due to Covid-19 pandemic.

- Pakistan Space & Upper Atmosphere Research Commission (SUPARCO), Karachi, Pakistan   July 2014 - Jan 2015
  - ***Student Project***
    National Student Satellite (PNSS-1) mission
    URL: http://www.suparco.gov.pk/pages/presentations-pdf/day-1/session-2/12C-II/1.pdf

- Conference/Journal Reviewer
  - AusDM (2018), Neurips (2019), ICML (2019), AAAI (2019, 2020), AECT (2019), TIST (2020)

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[1] www.github.com/sarwanpasha
[2] https://scholar.google.com/citations?user=9dtXSoAAAAAJ&hl=en
[3] www.linkedin.com/in/sarwan-ali
[4] www.orcid.org/0000-0001-8121-2168

HONOURS AND AWARDS

- *Individual*
  - **NOP Scholarship**: Fully funded scholarship for MS computer science at LUMS ($\sim$ 1.6 Million PKR)
  - **Speed Programming:** Secured first position in Speed Programming competition held at UET Peshawar in 2015

- *As a member of a team*
  - **Grant from SUPARCO:** Won the grant to design "Telecommand Receiver Unit" for PNSS-1 Satellite which was part of Pakistan National Student Satellite Mission in 2014
  - **Best Android Application:** Awarded 1st prize by Government of KPK in 2015
  - **Best Business Model:** Awarded 1st prize by Tie Islamabad, Peshawar chapter in 2015
  - **Government Grant:** For Emergence Rescue Application (worth $\sim$ 1 million PKR) from Government of Pakistan

PUBLICATIONS

- *Journals (2)*
  - **Sarwan Ali**, Muhammad Haroon Shakeel, Imdadullah Khan, Safiullah Faizullah, and Muhammad Asad Khan. "Predicting Attributes of Nodes Using Network Structure." **Accepted** in ACM Transactions on Intelligent Systems and Technology (TIST), (2020) . **URL:** `http://dx.doi.org/10.1145/3442390`
  - Muhammad Ahmad, **Sarwan Ali**, Juvaria Tariq, Imdadullah Khan, Mudassir Shabbir, and Arif Zaman. "Combinatorial trace method for network immunization." Information Sciences 519 (2020): 215-228.
    URL: `https://www.sciencedirect.com/science/article/pii/S0020025520300396?via%3Dihub`
    Acceptance rate: 22%

- *Conference Proceedings (4)*
  - **Sarwan Ali**, Haris Mansoor, Naveed Arshad, and Imdadullah Khan. "Short Term Load Forecasting using Smart Meter Data." In Proceedings of Tenth ACM International Conference on Future Energy Systems, pp. 419-421. 2019.
    URL: `https://dl.acm.org/doi/abs/10.1145/3307772.3330173`
  - **Sarwan Ali**, Maria Khalid Alvi, Safi Faizullah, Muhammad Asad Khan, Abdullah Alshanqiti, and Imdadullah Khan. "Detecting DDoS Attack on SDN Due to Vulnerabilities in OpenFlow." International Conference on Advances in the Emerging Computing Technologies (AECT), pp. 1-6, 2019.
    URL: `https://www.researchgate.net/publication/338987710_Detecting_DDoS_Attack_on_SDN_Due_to_Vulnerabilities_in_OpenFlow#fullTextFileContent`
  - **Sarwan Ali**, Haris Mansoor, Imdadullah Khan, Naveed Arshad, Muhammad Asad Khan, and Safiullah Faizullah. "Fair allocation based soft load shedding." In Intelligent Systems Conference (IntelliSys), pp. 407-424, 2020.
    URL: `https://doi.org/10.1007/978-3-030-55187-2_32`
  - Asad Ullah, **Sarwan Ali**, Imdadullah Khan, Muhammad Asad Khan, and Safiullah Faizullah. "Effect of Analysis Window and Feature Selection on Classification of Hand Movements Using EMG Signal." In Intelligent Systems Conference (IntelliSys), pp. 400-415, 2020. **URL:** `https://doi.org/10.1007/978-3-030-55190-2_30`

TEACHING AND PROFESSIONAL EXPERIENCE

- Lahore University of Management Sciences, Lahore, Pakistan
  Teaching Assistant

- CS 210 Discrete Mathematics	August 2017 - January 2018
- CS 510 Design & Analysis of Algorithm	August 2018 - January 2019
- CS 5312 Big Data Analytics	January 2019 - June 2019
- CS 5312 Big Data Analytics	January 2020 - June 2020

  Web Developer

- High Performance Computing Lab	July 2017 - September 2017

- University of Engineering and Technology, Peshawar, Pakistan

- **Android Instructor**	June 2016 - July 2016

- Freelancing

- **Software Development**	January 2014 - Present

COURSES

- Machine Learning
- Image and Video Encoding
- Design and Analysis of Algorithms
- Advance Computer Architecture
- Software Engineering for Smart Grid
- Data Mining
- Advance OS
- Applied Probability
- Software Reuse
- Big Data Analytics

References

- Dr. Pablo Moscato   pablo.moscato@newcastle.edu.au
- Dr. Imdadullah Khan   imdad.khan@lums.edu.pk
- Dr. Iftikhar Ahmad   ia@uetpeshawar.edu.pk
- Dr. Arif Zaman   arifzaman@gmail.com
- Dr. Safiullah Faizullah   safi@iu.edu.sa

ADDITIONAL SKILLS AND EXPERIENCE

- <u>**IT SKILLS:**</u> R, Matlab, Java, Weka, C++, Python

- <u>**SPORTS:**</u> Basketball (won inter-school basketball championship), Cricket (won inter-departmental cricket championship)

- <u>**VOLUNTEER WORK:**</u> Worked as instructor at Special school involving children with disabilities.