HUMAIRA KOUSAR

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Education

Korea Advanced Institute of Science and Technology, KAIST Daejeon, South Korea
Ph.D. in School of Electrical Engineering, Percentage: 92% *March 2022 - Present*
Advisor: Prof. Jaekyun Moon
Research Area: Active Learning and Distributed Machine Learning
Thesis: Efficient Data Selection Techniques in Deep Learning

Korea Advanced Institute of Science and Technology, KAIST Daejeon, South Korea
M.S. in School of Electrical Engineering, Percentage: 90% *Aug 2020 - Feb 2022*
Advisor: Prof. Jaekyun Moon
Thesis: Expediting Split Learning via Intermediate Feature Budgeting Strategy

National University of Sciences and Technology, NUST Islamabad, Pakistan
B.S. in School of Electrical Engineering, CGPA/Percentage: 3.84/4.00 *Sep 2015 - July 2019*
Advisor: Prof. Naveed Iqbal
Thesis: WHEGSTR: A Multiterrain Robot with C-Shaped Whegs, Implementation of Error Minimization Technique and using Artificial Neural Network (ANN)

Superior College and University Sialkot, Pakistan
Higher Secondary School Certification (Pre-Engineering) *Aug 2013 – April 2015*
Marks obtained: 936/1100 (85%)

Professional Experience

Moon Lab, School of EE, KAIST Daejeon, South Korea
Research Assistant (Advisor: Prof. Jaekyun Moon) *Sep 2020-Present*
- Main Research focus is on Federated Learning, Split Learning and Active Learning
- Developed Intermediate Feature Budgeting Strategy in split learning setup for expedite training and performance gain.
- Developed Efficient Data Selection via Weight Pruning and Network Fusion in Active learning setup.

School of Humanities, KAIST Daejeon, South Korea
Teaching Assistant
- Intermediate English Reading and Writing, *(Advisor: Prof. Seonmin Park)* *Sep 2022-Dec 2022*
- Advance English Reading, *(Advisor: Prof. Holly Wang)* *Sep 2023- Feb 2024*

Government Degree College for Women, Sialkot
Computer Science Lecturer (Principal: Amna Rafiq) Sialkot, Pakistan
- Work as Computer Science Lecturer *Oct 2019 – April 2020*

Rohde & Schwarz, Pakistan (Pvt) Ltd. Islamabad, Pakistan
Summer Intern (Supervisor: Wasif Nisar Abbasi) *Aug 2018 – Sep 2018*
- Completed six-week internship in Test and Measurement Dept.
- Work on different models of spectrum analyzers of R&S, Signal Generator, Vector Network Analyzer, EMC and also studied different Modulation Schemes.
- Secured 2nd Position in Final Presentation

Pakistan Telecommunication Company Limited Sialkot, Pakistan
Summer Intern (Supervisor: Naeem Najmi) *July 2017 – Aug 2017*
- Completed six-week internship in WLL, Switching and Transmission Dept. and studied OFC, Outside Site Plant & Transmission Techniques.
- Involved in routinely maintenance and visits.

Research Publications

H Kousar, M Atif, H Ali, MH Kundi. "**WHEGSTR: A Multiterrain Robot with C-Shaped Whegs, Implementation of Error Minimization Technique and using Artificial Neural Network (ANN).**" *2019 International Conference on Green and Human Information Technology (ICGHIT)*. IEEE, 2019.

Y Park, DJ Han, J Park, W Choi, **H Kousar**, J Moon. **"Distribution Aware Active Learning via Gaussian Mixtures."** *Workshop on Pitfalls of limited data and computation for Trustworthy ML, ICLR 2023.*

MM Rahimi, HI Bhatti, Y Park, **H Kousar**, J Moon. **"EvoFed: Leveraging Evolutionary Strategies for Communication-Efficient Federated Learning."** *Advances in Neural Information Processing Systems, 2024.*

H Kousar, HI Bhatti. **"Pruning-based Data Selection and Network Fusion for Efficient Deep Learning".** *ATTRIB, Advances in Neural Information Processing Systems, 2024.*

MM Rahimi, Y Park, **H Kousar**, HI Bhatti, DJ Han, J Moon. "**Communication-Efficient Federated Learning via Model-Agnostic Projection Adaptation".** *Advances in Neural Information Processing Systems, 2025. (under review)*

H Kousar, HI Bhatti. **"PruneFuse: Efficient Data Selection via Weight Pruning and Network Fusion".** *Advances in Neural Information Processing Systems, 2025. (under review)*

Y Park, J Park, W Choi, **H Kousar**, DJ Han, J Moon. **"Distribution Aware Active Learning via Gaussian Mixtures."** *Advances in Neural Information Processing Systems, 2025. (under review)*

Travel History

South Korea *(Purpose: Study)*	*March 2021-Present*
Saudi Arabia *(Purpose: Tourism)*	*Feb ~ March 2025*
Canada *(Purpose: Conference)*	*Dec 2024*
United States of America *(Purpose: Tourism)*	*Dec 2024*
Malaysia *(Purpose: Tourism)*	*Nov ~ Dec 2023*
Thailand *(Purpose: Tourism)*	*Nov 2022*

Social Work

Pakistan Red Crescent Society   *June-July 2017*
Completed six-week volunteer work

Honors and Leadership

- Served as a **Reviewer** in *ATTRIB, Advances in Neural Information Processing Systems, NeurIPS 2024*
- Selected as **Volunteer** at **"1:1 English Program"** conducted by **KAIST Language Center**, South Korea
- Selected as "**International Student Mentor**" at **Daedeok High School**, Daejeon, South Korea
- Selected as **Student Mentor at International Scholar and Student Services (ISSS), KAIST** for 2021 Fall Semester Freshmen" and "2022 Spring Semester Freshmen"
- **Distinction in Essay writing Competition** at Regional Level held by Chamber of Conference, Pakistan
- Currently, working as **Vice President** at Pakistan Student Association (**PSA**), **KAIST**, South Korea
- **Event Manager WIE-IEEE** (Women in Engineering-IEEE) NUST Student Branch [2018]-[2019]
- **Best Campus Ambassador** Award Winner in **PSYWSC'18**
- **Campus Ambassador of COMPPEC'19** from NUST university
- Worked as a **Speaker** in **workshops** by **IEEE** in university

- **Course Representative** at college level
- Secured **2nd Position** by presenting Senior year Project in **COMPPEC'19** (National Level Project Competition)

Certifications

- **Microsoft Office Specialist**
  Microsoft Office Excel 2013: verify.certiport.com**wdEQo-HauN**
  Microsoft Office PowerPoint2013: verify.certiport.com**EbhK-DTWq**
  Microsoft Office Word 2013: verify.certiport.com**HSUQ-XLKe**
- **Continuing Professional Development Program**
  Research Paper Writing using Latex Software(**One CPD credit point**)

Languages

- English
- Urdu
- Korean