

Mukhtiar Ali

mukhtiar.ali@jacks.sdstate.edu | (605) 690-7430 | Brookings, SD
mokhtiarali.github.io | github.com/GitAliGator | linkedin.com/in/mokhtiarali
Google Scholar | ORCID 0009-0000-8729-4133

EDUCATION

South Dakota State University, Brookings, SD 2021 – Present

Ph.D. in Computer Science | GPA: 3.80/4.00 | *Expected: December 2026*

Dissertation: Trustworthy and Explainable Multimodal Learning: Evaluation and Modeling Across Video and Physiological Data.

University of Azad Jammu & Kashmir, Muzaffarabad, Pakistan 2014 – 2018

B.S. in Software Engineering | GPA: 3.42/4.00

RESEARCH INTERESTS

Multimodal deep learning, wearable physiological signal fusion, uncertainty-aware and trustworthy AI, explainable AI (XAI), video-language understanding and evaluation.

PUBLICATIONS

- **Mukhtiar Ali**, Chulwoo Pack. “Multi-Scale Encoding, Gated Fusion, and Temporal Context for Lightweight Wearable Stress Detection” (MuSDeT). *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2026, pp. 7454–7462 (MULA Workshop). [CVF Open Access](#) | Code: github.com/Multimodal-Intelligence-Lab/MuSDeT
- **Mukhtiar Ali***, Harsh Dubey*, Sugam Mishra*, Chulwoo Pack. “CLIP-CC-Bench: Evaluating Paragraph-Level Video Descriptions in Video-Language Models.” *Long paper, EvalMG Workshop @ ACM SIGIR 2026*, Melbourne. *Equal contribution. [arXiv:2608.04302](https://arxiv.org/abs/2608.04302) | Code: [CLIP-CC-Bench](#) | Dataset: [CLIP-CC](#) / [HF](#)
- Seungpil Choi, **Mukhtiar Ali**, Chulwoo Pack, Eungjoo Lee. “Trustworthy Multimodal Learning via Uncertainty-aware Feature Modulation and Reliability Auditing.” *Under review, Knowledge-Based Systems (KBS)*.
- Harsh Dubey, **Mukhtiar Ali**, Kwanghee Won, Chulwoo Pack. “Video Comprehension Score (VCS) and Benchmark (VCB) for Long-Form Paragraph-Level Video Description Evaluation.” *In preparation, targeting CVPR 2027 (main conference)*.

RESEARCH EXPERIENCE

Multimodal Intelligence (MINT) Lab, SDSU — Graduate Research Assistant Fall 2024 – Present

Advisor: Dr. Chulwoo Pack

- Designed **MuSDeT** (PyTorch), a ~338K-parameter multi-scale CNN + gated fusion + GRU for leave-one-subject-out (LOSO) wearable stress detection; **+6.7pp on WESAD** and **+4.6pp on AffectiveROAD** over four baselines (CVPR 2026 Workshops, pp. 7454–7462).
- Developed an uncertainty-aware multimodal physiological Transformer fusion in PyTorch with post-hoc trustworthiness auditing under sensor corruption (under review, Knowledge-Based Systems).
- Proposed **CoInfoFusion**, a multimodal fusion module regularized by XAI-derived information-theoretic priors (unique information, co-information); **improved LOSO accuracy +20pp (55% → 74%)** on WESAD over the Husformer baseline.

Kai Group, SDSU — Graduate Research Assistant

Fall 2023 – Spring 2024

Advisor: Dr. Kaiqun Fu

- Industry-partnered research with **Roambee/Decklar**: geospatial and graph-based analysis of IoT transportation sensor data; optimized lane-level route efficiency and identified low-coverage regions via clustering.

Convergent Computing Lab, SDSU — Graduate Research Assistant Fall 2021 – Summer 2023
Advisor: Dr. Sung Y. Shin. Coursework and early research in deep learning and multimodal methods.

TECHNICAL SKILLS

Languages: Python, C/C++, MATLAB, SQL

Deep Learning & Computer Vision: PyTorch, HuggingFace Transformers & Datasets, sentence-transformers, scikit-learn, NLTK, OpenCV

Scientific Computing & Visualization: NumPy, SciPy, pandas, matplotlib, Jupyter

Architectures & Models: Transformers, Vision Transformers (ViT), CNNs, GRUs, encoder-decoder models, LLMs, VLMs (CLIP, LLaVA, Qwen-VL, BLIP), text embedding models (BGE, E5-Mistral, Jina, Stella, Nomic)

Tools & Platforms: Git, LaTeX, Linux, HPC (SLURM), VS Code

AWARDS & HONORS

- **US–Pakistan Knowledge Corridor (USPKC) PhD Scholarship**, Higher Education Commission (HEC) of Pakistan 2021 – 2026
 Fully funded doctoral fellowship for PhD study at US universities.
- **Winner, Khyber Pakhtunkhwa Impact Challenge (KPIC)** startup competition; co-organized by Govt. of Khyber Pakhtunkhwa and Lahore University of Management Sciences (LUMS), Pakistan 2019
 PKR 1M grant for iRent, a real-estate rental platform I cofounded.
- **Awardee, Prime Minister’s National Laptop Scheme**, Pakistan 2014

PROFESSIONAL EXPERIENCE

iRent, Abbottabad, Pakistan — Cofounder Aug 2019 – Aug 2021
 Cofounded a real-estate rental platform; led product and engineering; secured PKR 1M KPIC grant.

SERVICE & EXTRACURRICULARS

- **Historian**, Upsilon Pi Epsilon (UPE) Honor Society for Computing & Information Disciplines, SDSU Chapter Fall 2025 – Present
 Inducted for outstanding scholarship; honor society recognized by ACM and the IEEE Computer Society.
- **Treasurer and founding member**, Pakistan Students’ Association (PSA) at SDSU Nov 2023 – Present
 Manage chapter budget; organize cultural events and new-student orientation.