Ahsan Bilal

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EDUCATION

University of Oklahoma — Oklahoma, USA
MS in Computer Science — *Sep. 2024 – Present*
- **CGPA** – 3.8/4.0
- **Advisor**: Dr. Dean Hougen | Research includes Deep Learning, Reinforcement Learning, & LLMs

National University of Sciences & Technology (NUST - SEECS) — Islamabad, Pakistan
Bachelors of Engineering in Electrical Engineering — *Aug. 2020 – June 2024*
- **CGPA** – 3.66/4.0 | **Specialization GPA** – 4.0/4.0 | **Merit Scholarship** 2020
- **Person identification using gait with fused graph and 3D-convolutional architectures** | Presentation |

PUBLICATIONS | GOOGLE SCHOLAR

Neural Gaussian Radio Fields for Channel Estimation
NeurIPS'25 | Submitted
M. Umer, M.A. Mohsin, A. Bilal, J.M. Cioffi

ItDPDM: Information-Theoretic Discrete Poisson Diffusion Model
NeurIPS'25 | Accepted
S. Bhattacharya, A.R. Gorle, A. Bilal, C. Ding, A.K.S. Yadav, T. Weissman

Channel Prediction Under Network Distribution Shift Using Continual Learning-Based Loss Regularization
ICASSP'26 | Submitted
M.A. Mohsin, M. Umer, A. Bilal, M.I. Qadir, M.A. Jamshed, D.F. Hougen, J.M. Cioffi

Conditional Prior-Based Non-Stationary Channel Estimation Using Accelerated Diffusion Models
ICASSP'26 | Submitted
M.A. Mohsin, A. Bilal, M. Umer, A. Aali, M.A. Jamshed, D.F. Hougen, J.M. Cioffi

Continual Learning for Wireless Channel Prediction
ICML'25 | Accepted
MA. Mohsin, M.Umer, A. Bilal, MA Jamshed, J.M. Cioffi

Task Aware Distributed Source Coding for Correlated Audio Signals Using Perceptual Loss
AAAI'25 | Accepted
S. Bhattacharya, MA. Mohsin, A. Bilal, J.M. Cioffi

Retrieval Augmented Generation with Multi-Modal LLM Framework for Wireless Environments
ICC 2025 | Accepted
MA. Mohsin, A. Bilal, S. Bhattacharya, J.M. Cioffi

Hierarchical Deep Reinforcement Learning for Spectrum Resource Optimization in Integrated Terrestrial and Non-Terrestrial Networks
AAAI'25 | Accepted
MA. Mohsin, H. Rizwan, M.Umer, S. Bhattacharya, A. Bilal, J.M. Cioffi

Abstract – LLM for Explainable AI
IEEE DSAA'24 | Accepted
A. Bilal, B. Lin

Meta-Thinking in LLMs via Multi-Agent Reinforcement Learning: A Survey
IEEE TAI | Submitted
A. Bilal, MA. Mohsin, M Umer, MAK Bangash, MA Jamshed

On Shadow Removal With Boosted Attention in a Vision Transformer
Springer Machine Learning | Submitted
A. Bilal, A. Salman, S.S. Naveed, M.U. Safder, K. Khurshid, M.U. Ilyas

Person Identification using Gait with Fused Graph and 3D-Convolutional Architectures
International Journal of Multimedia Information Retrieval | Submitted
A. Bilal, A. Subhan, H. Ali, A. Salman

Industry Experience

Machine Learning Engineer Islamabad, PK
Cowlar Design Studio (Y Combinator 21) – Based in USA *Feb 2024 – August 2024*

- Developed an Action Recognition system for Smart Carts with 95% accuracy, built dual inference deployment for edge devices and Nvidia cluster. Automated fiber cable alignment using computer vision and machine learning with 96% success, improving precision to 5 micrometers and scaling production 40x.

UI Developer Dubai, UAE
SJCurve – Remote *March 2023 – August 2024*

- Created responsive web applications using WordPress and React.js, customized themes, integrated frontend with backend, and collaborated with teams to implement modern UI trends.

UX/UI Designer Wah Cantt, Pakistan
Meraki-IT – Remote *Nov 2022 – Mar 2023*

- Led UI/UX design for multiple projects, analyzing problem statements, designing intuitive interfaces, and developing wireframes and prototypes for the technology sector.

Talks and Presentations

- Delivered a presentation titled **"AI in Healthcare"** at Norman Regional Hospital under the supervision of **Dr. Lubna Mirza**

Honors and Awards

- Best Student Presentation **Runner-up** Award at **IEEE DSAA'24** Student Forum.
- Recipient of the **Gallogly College of Engineering Graduate Fellowship 2025**
- Awarded the **Student Travel Grant** for **IEEE DSAA 2024**.
- My Final Year Project received the **1st Best Adjudged Industrial Project Award** at the **NUST Open House 2024**.
- Selected as an Undergraduate Research Intern for the First Cohort of UGRIP by MBZUAI.
- Winner of **Prime Minister Laptop Scheme**.

Certifications

- Google UX Professional Certificate.
- Deep Learning Specialization Certificate.
- The Advanced Communication Skills Course.

Skills

Programming & Deep Learning: PyTorch, Tensorflow (Keras), OpenCV, Docker, Mlflow,EC2 Instance
Languages: Python, C/C++, Embedded C, Javascript (React.js), HTML/CSS, Next.js
Tools: MATLAB, VS Code, Git, AutoCad, Figma, PyCharm, Raspberry Pi OS, NginX
Design: Figma, AdobeXD, Adobe Illustrator, Adobe Photoshop, Sketch, WordPress Theme Design