







# Md Amran Hossen Bhuiyan, Ph.D.

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 Canadian Permanent Resident  Bangladeshi



## Professional Summary

PhD-trained AI/ML researcher with 10+ years of experience in computer vision and multimodal learning, spanning video surveillance, sport analytics, healthcare AI, and data-driven decision support; publications include CVPR, ECCV, *Pattern Recognition*, CVIU, *ACM Computing Surveys*, ACL, EMNLP, and AAAI.



## Education

### Istituto Italiano di Tecnologia (IIT) – University of Genova

Genova, Italy

*Ph.D. in Computer Vision, Recognition and Machine Learning*

Mar 2014 – Apr 2017

Dissertation: *Person Re-identification: From Closed to Open-World Scenario*.

### Lucian Blaga University of Sibiu (Erasmus)

Sibiu, Romania

*M.Sc. in Computer Engineering and Information Technology*

Sep 2009 – Jun 2011

CGPA: 9.75/10.00 (Rank 1/32). Dissertation: *Image Processing for Skin Cancer Features Extraction*.

### University of Dhaka

Dhaka, Bangladesh

*B.Sc. in Electrical, Electronics, and Communication Engineering*

Jun 2003 – Jan 2009

First Class (Rank 4/58).



## Research & Industry Experience

### York University

Toronto, Canada

*Postdoctoral Research Fellow*

May 2022 – Present

Mentors: Prof. Jimmy Xiangji Huang & Prof. Aijun An

- Current research on domain generalization and vision–language person re-identification, LVLM evaluation for chart reasoning, and diffusion models for recommendation, with applications in video surveillance, sport analytics, healthcare AI, and data-driven decision support.
- **Key projects (selected):**
  - *From Vision Foundations to Language-Driven Advances in Person Re-Identification (Under Review)* — vision–language ReID analysis and benchmarking.
  - *Agentic Captioning & Relation-Aware Distillation for Efficient Text-to-Image Person Re-Identification (Under Review)* — efficient VL ReID via agentic captions + distillation.
  - *Augmentation-Invariant Structure Loss (AISL) for Domain-Generalized ReID with Advanced Augmentation (In Preparation)* — robustness under domain shift.
  - *Modeling Item-Level Dynamic Variability with Residual Diffusion for Bundle Recommendation (AAAI 2026)* — diffusion-based ranking for decision support.
  - *Judging the Judges: Can LVLMs Fairly Evaluate Chart Comprehension and Reasoning? (ACL 2025)* — evaluation + safety for multimodal reasoning.
- Representative outputs: *Pattern Recognition* 2025; *ACM CSUR* 2024; ACL 2025; AAAI 2026.

### Veyetals & MarkiTech.AI

Toronto, Canada

*Deep Learning Advisor*

Feb 2024 – Dec 2024

- Led R&D of a real-time rPPG-based vital-sign monitoring system from facial videos and delivered deployment pipelines for web/mobile telehealth (Android/iOS).

### Waysights Inc.

Toronto, Canada

*AI Engineer (Computer Vision)*

Dec 2025 – May 2025

- Developed and fine-tuned YOLOv5-based Canadian traffic sign detection models, improving detection accuracy under real-world road conditions.

### École de Technologie Supérieure (ÉTS) & SPORTLOGiQ Inc.

Montréal, Canada

*Industrial Postdoctoral Fellow*

Jan 2018 – Mar 2021

Mentors: Prof. Eric Granger & Dr. Mehrsan Javan

- Player analytics: ReID/tracking + activity/group modeling; UDA + pose-gated fusion + RGB–Depth ReID; efficiency (pruning/attention) + deployment (*ECCV* 2020, *WACV* 2020, *AVSS* 2019, *CVIU* 2022, *EURASIP JIVP* 2021, *Image and Vision Computing* 2021 ).

## University of California, Riverside

Visiting Scholar (PhD Research Intern)

Mentor: Prof. Amit K. Roy-Chowdhury & Prof. Vittorio Murino

- Formulated a domain-adaptive re-identification method using geodesic flow kernels to match new cameras without retraining (**CVPR 2017**).

Riverside, USA

May 2016 – Oct 2016



## Teaching Experience

### York University

Adjunct Faculty

- Delivered *Information and Organizations* and *Internet Client-Server Systems* in in-person/hybrid modes.

Toronto, Canada

Jan 2023 – Present

### Noakhali Science and Technology University

Assistant/Associate Professor

- Taught AI, computer vision, digital signal processing; supervised capstone and graduate research projects.

Bangladesh

Mar 2012 – May 2022



## Selected Publications

Full list: Google Scholar.

- D. Zhang, L. Li, M. Li, **Amran Bhuiyan**, X. Tao, M. Sun, J. X. Huang. *Modeling Item-Level Dynamic Variability with Residual Diffusion for Bundle Recommendation*. **AAAI 2026**.
- **Amran Bhuiyan**, A. An, J. X. Huang, J. Shen. *Optimizing Domain-Generalizable Re-Identification through Non-Parametric Normalization*. **Pattern Recognition 2025**.
- M. T. R. Laskar, M. S. Islam, R. Mahbub, A. Masry, M. Rahman, **Amran Bhuiyan**, et al. *Judging the Judges: Can Large Vision-Language Models Fairly Evaluate Chart Comprehension and Reasoning?* **ACL 2025**.
- **Amran Bhuiyan**, J. X. Huang, A. An. *IGMG: Instance-Guided Multi-Granularity Learning for Domain-Generalizable Person Re-Identification*. **Computer Vision and Image Understanding 2024**.
- M. T. R. Laskar, M. S. Bari, M. Rahman, **Md Amran Hossen Bhuiyan**, S. Joty, J. X. Huang. *A Systematic Study and Comprehensive Evaluation of ChatGPT on Benchmark Datasets*. **ACL Findings 2023**.
- D. Mekhazni, **Amran Bhuiyan**, G. Ekladios, E. Granger. *Unsupervised Domain Adaptation in the Dissimilarity Space for Person Re-Identification*. **ECCV 2020**.
- R. Panda\*, **Amran Bhuiyan\***, V. Murino, A. K. Roy-Chowdhury. *Unsupervised Adaptive Re-Identification in Open-World Dynamic Camera Networks*. **CVPR 2017 (Spotlight)**. (\*equal contribution)
- **Amran Bhuiyan**, Alessandro Perina, Vittorio Murino. *Person Re-Identification by Discriminatively Selecting Parts and Features*. **ECCV-WK 2014 - Winner of the Intel Best Paper Award**.



## Patents

1. Mehrsan Javan, **Amran Bhuiyan**, et al.. *System and Method for Identity Preservative Representation of Persons and Objects Using Spatial and Appearance Attributes*. US Patent Pub. No: US 2022/0383662 A1, Pub. Date: Dec. 01, 2022.



## Grants, Fellowships & Honors (Selected)

- **SSHRC (York)** — Co-I, *DG for Person ReID* (2022–2023).
- **Mitacs** — Elevate Industrial Postdoc (2019–2021) + Accelerate Internship (2018) at ÈTS/SPORTLOGiQ.
- **Scholarships** — IIT PhD Fellowship (2014–2017) + Erasmus Mundus (2009–2011).
- **Intel Best Paper Award** — **ECCV 2014: Person Re-identification by Discriminatively Selecting Parts and Features**.
- **Academic Merit Scholarship** — University of Dhaka (Ranked 4th in B.Sc.).



## Technical Skills

- Computer Vision, Machine Learning, Digital Image Processing, and Natural Language Processing.
- Python, PyTorch, TensorFlow/Keras, Java, MATLAB, C/C++, PL/SQL, Lua.



## Professional Service & Outreach

- **Conference Organization**: Technical Program Co-Chair & Track Chair (MIET 2022); Track Chair (IEEE WI-IAT 2022).
- **Journal Reviewing**: Reviewer for *IEEE TPAMI*, *Pattern Recognition*, *CVIU*, *Sensors*, and others.
- **Conference Reviewing**: CVPR, ICCV, ECCV, NeurIPS, AAAI, ICML, WACV, AVSS, ICIP, ACL, EMNLP, SIGIR, KDD.



## References

**Prof. Jimmy Xiangji Huang**

Director of IR & KM Research Lab

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**Prof. Vittorio Murino**

Principal Investigator, AIGO- AI for Good

University of Verona, Italy

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