

Dipon Kumar Ghosh

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Github: <https://github.com/diponghosh>

Google Scholar: <https://scholar.google.com/citations?user=Y1p-qPcAAAAJ&hl=en>

CAREER OBJECTIVE

I am a motivated and dedicated PhD researcher experienced in Machine Learning and Artificial Intelligence interested in career opportunities as an academic researcher in the aforementioned field. I have experience in performing state-of-the-art research and publishing articles in high quality journals.

EDUCATION

Gachon University, Seongnam, South Korea

Ph.D. in Computing (AI Major), (2022-present)

- CGPA: 4.2 (out of 4.5) (current)
- Research Area: *Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Event-based Computer Vision, Neuro-morphic Vison*

BRAC University, Dhaka, Bangladesh

M.Sc. in Computer Science and Engineering, (2019 - 2021)

- CGPA: 3.95 (out of 4.0)
- Thesis: *Efficient Spatio-temporal Feature Extraction for Human Action Recognition*

Jawaharlal Nehru Technological University Anantapur, AP, India

B.Tech. in Information Technology, (2014 - 2018)

- CGPA: 8.0 (out of 10.0)
- Thesis: *A Sentiment Analysis Engine from Online Product Reviews*

PUBLICATIONS (highlighted)

- [1] Two-stage cross-fusion network for event-based stereo depth estimation. **Ghosh D. K.**, Jung Y. J., *Expert Systems with Applications* (2023)
- [2] Event-based video deblurring based on image and event feature fusion. Kim J., **Ghosh D. K.**, Jung Y. J., *Expert Systems with Applications* (2023).
- [3] A Spatio-Temporal Graph Convolutional Network Model for Internet of Medical Things (IoMT). **Ghosh, D. K.**, Chakrabarty, A., Suh, D.Y. and Piran, M. J., *Sensors* (2022).
- [4] Two-stream Multi-dimensional Convolutional Network for Real-time Violence Detection. **Ghosh D. K.**, **Chakrabarty A.**, *ArXiv* (2022)

- [5] Efficient Learning-driven Spatio-temporal Feature Extraction for Violence Detection in IoT Environments. **Ghosh, D. K.**, Chakrabarty, A., Mansoor, N., Suh, D. Y. and Piran, M. J., 2021 International Conference on Information and Communication Technology Convergence (ICTC), South Korea.

(more at [Google Scholar](#))

RESEARCH PROJECTS

Neuromorphic Event Stereo Camera for Depth Sensing

- Developed state-of-the-art model to estimate depth from event camera data
- Developed methods for better image and event feature fusion.

Violence Action Detection

- Developed *Multi-dimensional Neural Network* to detect violent actions from video clips.
- The model achieved state-of-the-art accuracy in the largest violent detection dataset.
- The efficient feature-extraction method enabled the model to achieve high accuracy only from RGB frames.

Skeleton-based Action Recognition

- Developed *Redefined Spatio-temporal Graph Convolutional* network to identify actions from skeleton data.
- The model achieved competitive accuracy in challenging skeleton-based action recognition dataset despite having fewer parameters.

Sentiment Analysis

- Developed a sentiment analysis system that analyzes the sentiments of product reviews and categorizes the product according to the reviews.
- Used Bayesian Classifier algorithm to build the sentiment analysis system. The model was trained on reviews of products collected from different e-commerce websites.

SKILLS

Programming Languages

- Python, C/C++, MATLAB

Libraries and Frameworks

- PyTorch, Keras, Scikit-learn, TensorFlow
- OpenCV, Pillow, Scikit-image
- NumPy, Matplotlib, Seaborn, Pandas

Web Technologies

- HTML, CSS, JavaScript, Flask, Django, React

Miscellaneous

- MS Office, LaTeX

MISCELLANEOUS

Awards and Scholarships

- Received prestigious **Indian Council for Cultural Relations (ICCR)** scholarship, which covered undergraduate tuition fees and monthly stipend.
- Received Merit scholarship from **BRAC University**.
- Received GL Scholarship for tuition fee waiver from **Gachon University**
- Received research assistantship from **Computer Vision Lab, Gachon University**

Programming Competitions and Hackathons

- ACM-ICPC Amritapuri onsite regional contest
- Tata Consultancy Service (TCS) programming contest
- SRM Hackathon (organized by SRM, Chennai and Github)
- IndiaHacks Conference (organized by HackerEarth)

Project Management and Teaching

- Guided undergraduate students for their thesis work.
- Worked as a team leader at hackathons, projects and mini-projects.
- Taught programming and fundamentals of computer science to secondary, higher secondary and undergraduate students.

REFERENCES

Available Upon Request