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Shafkat Khan Siam

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Research Interest

Deep Neural Network, Self-supervised process, Image Processing, Machine Learning

Employment

Graduate Research Assistant — **Computer Vision Lab, Chosun University** — **April 2021 - February 2023**

- Developed and implemented advanced face detection and recognition algorithms for various projects.
- Designed and developed code for self-supervised image denoising techniques.
- Created neural network models for image-to-image conversion.
- Troubleshooting and refining recent work on segmentation-based deep learning methods and results for different methods for the co-authored papers.

Project Engineer — **Robi Axiata Ltd.** — **October 2020 - November 2020**

- Enhanced network performance by increasing the allocated bandwidth for base transceivers.
- Adhering to regulations while creating or removing beam formations through zonal controllers.

System Engineer — **Grameenphone Ltd.** — **July 2019 - June 2020**

- Conducted 24/7 alarm surveillance of network elements and systems.
- Escalated, following up, and reporting alarms until resolved.
- Performed stability checks based on system benchmark KPIs.
- Provided terminal-based support during planned activity execution in the network and ensuring successful completion.
- Enhanced the experience for content providers.

Education

Gwangju, South Korea — **Chosun University** — **March 2021 – February 2023**

- **M.Sc.** in Computer Engineering (CE)
- **Thesis title:** Aggregated multiscale self-supervised denoising
- **Thesis code:** https://github.com/khan022/aggregated-multiscale-self-supervised-denoising
- **Thesis Domain:** Image Processing & Machine Learning
- **CGPA:** 4.06 out of 4.50 (90.2%)
- **Scholarship:** Merit order scholarship throughout 2 years' study of M.Sc.

Khulna, Bangladesh — **Khulna University of Engineering & Technology (KUET)** — **December 2014 – March 2019**

- **BSc.** in Electronics and Communication Engineering (ECE)
- **Thesis title:** Classification of Chest X-Ray images to detect pneumonia using Deep Residual Network
- **Thesis Domain:** Image Processing & Machine Learning
- **CGPA:** 3.01 out of 4.00 (64.72%)

Publications

Journal Articles

- Masud An Nur Fahim, Nazmus Saqib, **Shafkat Khan Siam**, Ho Yub Jung, ***Rethinking Gradient Weight's Influence over Saliency Map Estimation***, MDPI, Sensors, 22 (17), 6516, 2022.
  DOI: 10.3390/s22176516
  Description: We have developed a novel CAM-based method for deep neural network interpretability. Our method uses a global guidance map to produce more precise and specific saliency visualizations. We evaluated our method on three datasets and outperformed nine existing methods.

- Masud An Nur Fahim, Nazmus Saqib, **Shafkat Khan Siam**, Ho Yub Jung, ***Denoising Single Images by Feature Ensemble Revisited***, MDPI, Sensors, 22 (18), 7080, 2022.
  DOI: 10.3390/s22187080
  Description: We have proposed a new architecture for image denoising that uses modular concatenation instead of deep cascades. Our method preserves spatial fidelity and avoids cartoon-like smoothing. Our method has fewer parameters than most existing methods and achieves better performance on three datasets.

Languages and Technologies

- **Programming Languages:** Python, C, C++, MATLAB
- **Machine Learning Tools:** Tensorflow, Keras, PyTorch, scikit-learn
- **Framework:** Arduino
- **SCB:** Raspberry Pi
- **PCB/Circuit design:** Proteus

Standardized Test Scores

- **International English Language Testing System (IELTS): 07-Oct-2023**

Overall	Listening	Reading	Writing	Speaking
7.5	8.5	8.0	6.5	6.5

- **Graduate Record Examinations (GRE): 12-0ct-2020**

Quantitative Reasoning	Verbal Reasoning	Analytical Writing
162	147	3.5

Volunteering Activities

- **Committee Member**, Manipulators of Electrons Club (Nov 2017 - Mar 2019)
- **Co-founder**, Innovation and Research Association for Students (IRAS) - KUET, (Jul 2018 - Mar 2019)
- **Organizer:** Technival 2019 (nationwide technical fest)