

Abhijit Adhikary

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EDUCATION

- **King's College London (CDT in Smart Medical Imaging)** London, UK
UKRI EPSRC PhD Fellow in Biomedical Engineering and Imaging Sciences; Co-funded by Phillips 09/2022 – Present
- **King's College London** London, UK
Masters by Research (MRes) in Healthcare Technologies (Artificial Intelligence) 09/2021 – 09/2022
- **The Australian National University** Canberra, ACT, Australia
Master of Machine Learning and Computer Vision; GPA: 6.88/7.00 (Distinction) 02/2020 – 12/2021
- **Middlesex University** London, UK
Bachelor of Computer Science; First Class Honours (Distinction) 09/2017 – 06/2019
- **North South University** Dhaka, Bangladesh
Bachelor of Computer Science & Engineering; Incomplete (Transferred to Middlesex University) 01/2015 – 05/2017

WORK EXPERIENCE

- **The Australian National University** Canberra, ACT, Australia
Casual Sessional Academic (Tutor) 01/2021 - 11/2021
 - **Role:** Conduct tutorial sessions and responsible for the complete grading process of a course.
 - **Supervised Courses:** i) Neural Networks, Deep Learning and Bio-inspired Computing, ii) Computer Networks, iii) Software Engineering, iv) Introduction to Machine Learning
- **Middlesex University** London, UK
Student Learning Assistant (Tutor) 10/2018 - 05/2019
 - **Role:** Work in lectures, seminars, workshops and small group sessions to assist students and facilitate their learning.
 - **Supervised Modules:** i) Web Application and Databases, ii) Distributed Systems and Networking

PUBLICATIONS

- A. Adhikary, N. Bhandari, E. Markou, and S. Sachan, "Artgan: Artwork restoration using generative adversarial networks," in *2021 13th International Conference on Advanced Computational Intelligence (ICACI)*. IEEE, 2021, pp. 199–206.
- A. Adhikary and N. Bhandari, "Posemotion-combining real-time 2d body pose estimation and facial emotion recognition to analyze human behavior," in *2021 26th International Conference on Automation and Computing (ICAC)*. IEEE, 2021, pp. 1–6.
- H. Wang and A. Adhikary, "Stressnet: A deep neural network based on dynamic dropout layers for stress recognition," in *International Conference on Neural Information Processing*. Springer, 2021, pp. 502–512.
- S. Yan and A. Adhikary, "Stress recognition in thermal videos using bi-directional long-term recurrent convolutional neural networks," in *International Conference on Neural Information Processing*. Springer, 2021, pp. 491–501.

REVIEWER

- **ICONIP 2022:** The 29th International Conference on Neural Information Processing
- **ICONIP 2021:** The 28th International Conference on Neural Information Processing
- **ICAC 2021:** 26th IEEE International Conference on Automation and Computing

SIGNIFICANT PROJECTS

- **EEG Decoder: Conditional Feature Generation and Filtering with Generative Adversarial Networks:** I used a Conditional Star-GAN architecture to generate and filter out features from images generated from EEG signals.
- **Transcutaneous Electrical Nerve Stimulation (TENS) for Hypertension Management:** In partnership with Brun Health Ltd and Afferent Medical Solutions Ltd I undertook this medical product design project for a TENS product for hypertension management.
- **Image to Image Translation Using Cycle Consistent Generative Adversarial Network (Cycle-GAN):** For my Honours research project I analysed the importance of various losses, i.e. cycle-consistency, identity etc. for Cycle-GAN training in the domain of unsupervised image style transfer.
- **Analysis of Network Pruning with Variable Finetuned Layers on a Pretrained AlexNet Model:** Although a pretrained neural network provides a better starting point in most cases, choosing the number of layers to fine tune is a challenge, specially when the dataset is small. I observed the role of fine tuning different number of pretrained layers of the AlexNet model and concludes the ideal number of layers for small datasets.
- **Analysis of Street Image Segmentation Performance using Spectral Clustering via Nyström Approximation:** I analysed the speed and segmentation quality of the Nyström approximation to perform spectral clustering on the IDD20k dataset, containing vehicle dashcam image sequences, and compared it with SOTA algorithms.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C, C++, MATLAB **Typesetting:** LaTeX
- **Deep Learning Frameworks:** PyTorch, TensorFlow **Version Control:** Git, Github, Gitlab
- **Other Relevant Tools:** OpenCV, NumPy, Matplotlib, Pandas, Scikit-learn

CERTIFICATES & SPECIALIZATIONS

- **Deep Learning Specialization, Generative Adversarial Networks (GANs) Specialization** , Coursera (deeplearning.AI)
- **Data Science Professional Certificate Applied Data Science Specialization** , Coursera (IBM)
- **Mathematics for Machine Learning Specialization** , Coursera (Imperial College London)

ACHIEVEMENTS

- **EPSRC CDT PhD Fellowship** Full scholarship towards tuition fees & monthly stipend.
Funding Body: i) EPSRC Center for Doctoral Training (CDT in Smart Medical Imaging) at King's College London, ii) Phillips Healthcare, iii) King's College London
- **Junior Scholarship 2009** (National), Bangladesh
- **2nd Place:** 32nd National Science & Information Technology Fair 2011, Bangladesh

VOLUNTARY EXPERIENCE

- **Deeplearning.ai** Online
Mentor 08/2021 - Present
- **Coursera** coursera.org
Beta Tester 05/2021 - Present
- **Middlesex University Students' Union** London, UK
Student Voice Leader 10/2017 - 05/2018
- **NSU ACM Student Chapter, NSU Art & Photography Club** Dhaka, Bangladesh
Sub-Executive Body Member 2016 - 2017

REFERENCES

Available upon request.