Subhajit Maity

Associate Research Engineer, Technology Innovation Hub, Indian Statistical Institute, Kolkata

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Education

Jalpaiguri Government Engineering College (Autonomous)   *Jalpaiguri, India*

B.Tech. in Electronics & Communication Engineering   Aug. 2014 - Dec. 2018

GPA: 8.47/10

Courses: Linear Algebra, Calculus, Artificial Intelligence

Project: Infrared-based IOT for Domestic Consumer Grade Appliances

Experiences

Technology Innovation Hub, Indian Statistical Institute, Kolkata   *Kolkata, India*

Associate Research Engineer   Jun. 2022 - Present

Working on Object Detection, Speed Estimation from a video feed, License Plate Recognition, and Scene Text Recognition.

Projects: Traffic Surveillance for Overspeeding Vehicles and License Plate Recognition

Supervisor: Prof. Umapada Pal, CVPR Unit, Indian Statistical Institute, Kolkata

Tata Consultancy Services Limited   *Kolkata, India*

System Engineer   Nov. 2018 - Jan. 2021

Worked as a developer for Oracle Fusion Middleware technologies (SOA Suite, OSB) and as administrator for SSO products (Oracle IAM, OAM) along with OCI cloud administration and Linux administration.

Projects: Oracle Cloud Migration, Oracle Single Sign On development in OAM and IAM, Oracle SOA development and migration from 11g

National Institute of Technology, Silchar   *Silchar, India*

Research Intern   Jun. 2017 - Jul. 2017

Worked on classical image processing, natural language processing, Bayesian classifier, and image caption generation.

Project: Word Sense Disambiguation for Ambiguous Words using Visual Supervision

Supervisor: Prof. Koushik Guha, Dept. of ECE, National Institute of Technology, Silchar

Technical Skills

Programming	Python, Matlab, Java
Professional Libraries	PyTorch, Numpy, Matplotlib, Seaborn, Pandas, Keras, Tensorflow
Documentation & Typesetting	MS Office, LaTeX, Beamer
Languages	Bengali (Native), English (Professional Proficiency)

Publications

[1] **S. Maity***, S. Biswas*, S. Manna, et al. "SelfDocSeg: A Self-Supervised vision-based Approach towards Document Segmentation ," *International Conference on Document Analysis and Recognition (ICDAR)*, 2023. [Link]

[2] **S. Maity**, S. Sarkar, A. Tapadar, et al. "Fault area detection in leaf diseases using k-means clustering ," *International Conference on Trends in Electronics and Informatics*, 1538-1542, 2018. [Link]

[3] **S. Maity**, R. K. Karsh. "Image Hash Minimization for Tamper Detection ," *International Conference on Advances in Pattern Recognition (ICAPR)*, 1-16, 2017. [Link]

Research Projects

Knowledge Distillation in Documents   *Barcelona, Spain*

Exploring Knowledge Distillation, Document Segmentation, Document Classification   May. 2023 - Present

Collaborator: Sanket Biswas, Computer Vision Center, Universitat Autònoma de Barcelona & Jordy Van Landeghem, KU Leuven

Self-Supervised Document Layout Analysis   *Barcelona, Spain*

Explored Self-Supervised Learning, Document Segmentation   Jan. 2023 - Feb. 2023

Collaborator: Sanket Biswas & Prof. Josep Lladós, Computer Vision Center, Universitat Autònoma de Barcelona

Self-Supervised Object Detection *Kolkata, India*

Explored Object Detection, Self-Supervised Learning, Meta Learning strategies | Aug. 2022 - Mar. 2023

Supervisor: Prof. Umapada Pal, CVPR Unit, Indian Statistical Institite, Kolkata & Prof. Saumik Bhattacharya, Dept. of Electronics and Electrical Communication Engineering, Indian Institute of Technology, Kharagpur

Image Forgery Localization *Silchar, India*

Explored Image Forgery Detection using Auto-encoders | Jan. 2022 - Jun. 2022

Mentor: Prof. R. K. Karsh, Dept. of ECE, National Institute of Technology, Silchar

Fine Grained Sketch Based Image Retrieval *Guildford, UK*

Explored Siamese Networs, Knowledge Distillation, Gradient Consensus, Reinforcement Learning for Sketch based Image Retrieval | Aug. 2021 - Jul. 2022

Mentor: Ayan K. Bhunia, SketchX, CVSSP, University of Surrey

Human Action Recognition for Activity Monitoring *Kolkata, India*

Explored Pose Estimation, Action Recognition, Object Detection | Jan. 2021 - Aug. 2021

Supervisor: Prof. Swagata Mandal, Dept. of ECE, Jalpaiguri Govt. Engineering College & Dr. Satyabrata Maity, Calcutta University

Image Forgery Detection *Silchar, India*

Explored Image Forgery Detection, Unsupervised learning, Harris Corner Detector, SIFT, SURF | Jul. 2017 - Dec. 2017

Mentor: Prof. R. K. Karsh, Dept. of ECE, National Institute of Technology, Silchar

Leaf Disease Detection *Jalpaiguri, India*

Explored Semantic Segmentation using k-Means Clustering | May. 2017 - Jan. 2018

Collaborator: Sanket Biswas, Computer Vision Center, Universitat Autònoma de Barcelona & Avinaba Tapadar, Qualcomm India Pvt. Ltd.

Awards and Honors

Mar. 2023 | **Participation**: Attended "G20 Expo, 2nd Education Working Group Metting, G20 Summit 2023" | *Amritsar, India*

Volunteer Services

International Journal of Advances in Applied Sciences (IJAAS) *http://ijaas.iaescore.com*

Peer Reviwer | Oct. 2021

9th International Conference on Advances in Pattern Recognition *Bangalore, India*

Presentation / Attendance | Dec. 2017