

Sidra Hanif

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EDUCATION

TEMPLE UNIVERSITY

PHD, COMPUTER AND INFORMATION SCIENCE

Aug 2017 - May 2023 (exp) | Philadelphia, PA

Advisor: Prof. Dr. Longin Jan Latecki

UET, LAHORE

BS, MS ELECTRICAL ENGINEERING

Aug 2012, April 2016 | Lahore, PK

SKILLS

Languages: Python, JAVA, C/C++

Frameworks: PyTorch, Caffe, Tensorflow, MatconvNet, OpenCV, CUDA, Latex

INTERESTS

Handwriting strokes recovery ·

Handwriting detection · Similarity learning ·

Large scale image retrieval

TEACHING

Problem Solving and Programming in

Python · Mathematical Concepts in

Computing · Digital Logic Design ·

Communication Systems

COURSES

Design and Analysis of Algorithm · Data Structures · Computer Vision ·

Knowledge Discovery and Data Mining ·

Advanced Machine Learning ·

Programming Techniques · Deep

Learning · Probability and Random

Processes · Optimization Theory ·

Machine Learning and Pattern

Recognition · Digital Signal Processing

AWARDS

- Research fellowship, Signedcards.com, 2022
- GHC student scholarship 2020
- Amazon Research Award travel grant for re:MARS 2019
- NSF travel grant for PRICAI 2019

EXPERIENCE

INDUSTRY EXPERIENCE

QUANTUM DESIGN INC. | IMAGE PROCESSING ENGINEERING INTERN

May 2019 - Aug 2019 | San Diego, CA

- Localize objects in microscopic images using single-shot detection algorithm with absolute accuracy.
- Key-point detection in nano scale images using multi-order difference of distance loss function.

RESEARCH EXPERIENCE

RESEARCH FELLOWSHIP, [HTTP://SIGNEDCARDS.COM](http://signedcards.com)

Jan 2022 - Present | Philadelphia, PA

- Build the robust word detection framework with character regions awareness achieving **mAP@0.5 0.895** on a full-page handwritten document datasets
- Developed and implemented the full-page stroke trajectory recovery design for Signed Inc

TEMPLE UNIVERSITY | GRADUATE RESEARCH ASSISTANT

Sep 2017 - Fall 2021 | Philadelphia, PA

- Designed a unified deep convolutional architecture for coherent object's localization and retrieval. On natural images, the retrieval rate is **86%** as compared to **73%** provided by state-of-the-art method.

AL-KHWARIZMI INSTITUTE OF COMPUTER SCIENCE, PK | RESEARCH OFFICER

Mar 2014 - Sep 2015 | Lahore, PK

- Developed an automated building detection framework for dense urban scenes of multi-temporal Google earth imagery. For the same detection accuracy **86%**, it reduced the false alarms by **40%** and repeated detection by **20%**.
- Implemented a web service using **C++ .NET Framework** for automated acquisition of weather data from MODIS (Moderate Resolution Imaging Spectroradiometer) for disease surveillance.

PUBLICATIONS

- **Sidra Hanif**, Longin Jan Latecki, Character Score Fusion for Word Detection in Low-contrast Camera-captured Handwriting Text, KDD Document Intelligence Workshop, 2022
- **Sidra Hanif**, Chao Li, Anis Alazzawe, Longin Jan Latecki, Image Retrieval with Similar Object Detection and Local Similarity to Detected Objects, 16th Pacific Rim International Conference on Artificial Intelligence (PRICAI), 2019
- **Sidra Hanif**, Longin Jan Latecki, Full-page Stroke Trajectory Recovery for Handwritten documents, pre-print, 2022
- **Sidra Hanif**, Longin Jan Latecki, Graph Aggregation on Multi-modal Embeddings for Greeting Cards Datasets, pre-print, 2022

ACTIVITIES

Reviewer for Journal of Electronic Imaging, SPIE. (2018) and Computer Vision and Image Understanding, Elsevier (2019)