M. Kamran Janjua

Curriculum vitae

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Education

2016–Present **Bachelor of Engineering in Computer Science**,
National University of Sciences and Technology (NUST), Islamabad, Pakistan.
CGPA - 3.63/4.00, **Percentage - 91%**

2014–2016 **Higher Secondary School Certificate (HSSC)**,
Pakistan International School, Doha, Qatar.
Percentage - 87%

Publications

Janjua M.K., Calefati A., ShahNawaz, Gallo I.
Gitloss for Deep Face Recognition,
British Machine Vision Conference (BMVCW) 2018.

Janjua M.K., ShahNawaz, Gallo I., Calefati A.
Revisiting R@K Measure for Cross Modal Retrieval (2018),
Winter Conference on Applications of Computer Vision 2019 [Under Review].

Gallo I., ShahNawaz, Janjua M.K., Calefati A.
Image and Visual Text Embedding for Multi-modal Classification,
Digital Image Computing: Techniques and Applications 2018 [Under Review].

ShahNawaz, Calefati A., Janjua M.K., Gallo I.
Seeing Colors: Learning Semantic Text Encoding for Classification,
International Journal on Document Analysis and Recognition 2018 [Under Review].

Experience

2018–Present **Research Assistant at ARTE Lab**, *University of Insubria, Varese, Italy*.

The Applied Recognition Technology Laboratory (Arte-Lab) is a research laboratory within the Department of Theoretical and Applied Science (DiSTA) at Università degli Studi dell'Insubria supervised by Dr.Ignazio Gallo. Following is a roughly chronological overview of my work in the lab.

- **Loss Functions for Fat-Tailed Distribution in large scale Face Recognition**
  I worked on developing efficient loss functions and optimization techniques to reduce long-tailedness and class imbalance in the large-scale datasets since traditional loss functions do not penalize the inter and intra class variations effectively.
- **Multimodal Deep Learning for Image Retrieval**
  I am working on discriminatively embedding the two modalities, text and visual, onto a shared visual-textual space. Current approaches employ multiple networks for each modality, my work focuses on exploring marker based techniques for dual modalities.

2016–Present **Research Assistant at TUKL-NUST Research and Development Center**, *NUST, Islamabad, Pakistan*.

TUKL-NUST is a research and development center setup by a joint collaboration of TUKL, Germany, and NUST, Islamabad advised by Dr.Faisal Shafait. Following is a roughly chronological overview of my work in the lab.

- **Real Time Scene Text Detection & Recognition**
  Optical Character Recognition for scene images is a rather very important and difficult task. My work was to research and implement an end-to-end trainable architecture and deploy it on IOS to achieve real time results. The IOS model runs on 30fps currently.
- **Postal Address Parsing**
  Parsing of non-standardized addresses is a challenging task since many standard sentence taggers fail to perform well on non-standardized postal addresses. I worked to implement an end-to-end trainable deep learning based solution to tackle the problem.
- **Underwater Video Data Collection of MahSheer in Murky Waters**
  Data collection is an extremely important part of data driven solutions. I was active in a small group working to collect underwater videos of an endangered specie for non-invasive sampling for a project funded by DAAD, Germany. We designed a system to capture underwater videos in the rivers.

2017–2018 **Teaching Assistant for Fundamentals of Computer Programming**,
School of Electrical Engineering & Computer Science, NUST, Islamabad, Pakistan.

I was teaching assistant for the introductory computer science course. My main responsibilities were to grade assignments, quizzes and end semester projects. Additionally, I had to deliver a brief lecture once a week.

2015–2016 **Research Intern at Al Kindi Lab for Computing**,
Qatar University, Doha, Qatar.

Al Kindi Research Lab is a research center focusing on research in the vital area of computer and information sciences and engineering. Following is the detail regarding the project I worked on while interning in the lab.

- **Synchronous Drone System for Building Surveillance**
  Real time feedback regarding the under-construction building is crucial to stable construction. I worked on building synchronous drone system for under-construction building surveillance. My work was focused on assembling the drones and synchronizing them. The drones were built using ardupilot.

Awards and Accolades

2018 Tsinghua's Deep Learning Summer School [Funded] [Passed]

2018 Summer Internship at Sharif University of Technology, Tehran [Passed]

2016 - Dean's list for high achievers (all semesters)

2016 Gold Medal, HSSC-II, 1st in batch

2015 Silver Medal, SSC-II, 2nd in batch

Academic Review Experience

2018 Co-Reviewer for ECCV, DICTA, ICET

Standardized Scores

IELTS 8.5 Listening. 8.0 Reading. 7.0 Writing. 7.5 Speaking.

ACT 27 overall.

ACT Writing 36/36.

Skills

C, C++ I can program in C and C++ well. I did my data structure's coursework and project in C++. Code: `https://github.com/kjanjua26/Algorithms`.

Python, NumPy, OpenCV Python combined with NumPy is my primary framework for rapid prototyping and almost all of the research work done in lab is in Python.

TensorFlow, PyTorch, Keras I have used Keras and Tensorflow to train models on CPU and GPUs in the past. Recently, I've shifted to PyTorch because I find the dynamic graph generation extremely convenient.

Linux, Vim, Bash I managed a linux based multi-GPU server of TUKL-NUST Lab for a period of almost 6 months.

Interests

- Problem Solving
- Reading
- Playing Guitar
- Cooking
- Writing
- Teaching

MOOCs

- Learning from Data
- Statistics 110: Probability
- Convolutional Neural Networks for Visual Recognition
- Deep Learning with Tensorflow
- Convex Optimization
- Deep Learning for Self Driving Cars