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 Workshop (BMVCW) 2018.

Janjua M.K., ShahNawaz, Gallo I., Calefati A.
Revisiting Cross Modal Retrieval (2018),
European Conference on Computer Vision Workshop (ECCVW) 2018 [Under Review].

Gallo I., ShahNawaz, Janjua M.K., Calefati A.
Image and Visual Text Embedding for Multi-modal Classification (2018),
European Conference on Computer Vision Workshop (ECCVW) 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

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