Yasir Jan

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Education & Experience

AI R&D Consultant CARE, Islamabad, Pakistan April 2022 ~ Till Now	Project: AI/Deep Learning/Computer Vision Data extraction from digital graph images. Disease detection from Medical Urine strips.
R&D Computer Vision Engineer GenVis, Perth, Australia June 2020 ~ Feb 2022	Project: People and car tracking Detecting cars/people, their attributes and tracking them throughout the video.
Software Engineer Internee ScanTek, Perth, Australia Nov 2019 ~ Apr 2020	Project: Machine Learning for OCR Extracting text from images having the dark text written on dark backgrounds
University Tutor Murdoch University, Perth, Australia Aug 2016 ~ Nov 2019	Tutorials for PostGraduate Students Conducting lab tutorials and workshops for Murdoch University postgraduate students.
PhD in Computer Vision Murdoch University, Perth, Australia May 2016~Jan 2021	Project: Deep Learning for Crowd Image Analysis Analysing crowd locations in images using deep neural networks and machine learning techniques
Visiting Lecturer Bahria University, Islamabad, Pakistan Sep 2015 ~ Jan 2016	Course Unit: Data Structures Teaching the undergraduate unit of “Data Structures”
Research Student Gyeongsang National University, South Korea Oct 2012 ~ Feb 2014	Project: Robot controller designs Design of haptic based rehabilitation robot Control of Industrial drilling robot
Assistant Professor / Lecturer College of EME, NUST, Pakistan May 2009~ Sep 2012	Course Units: Computer Graphics, Artificial Intelligence, Digital Systems Design Teaching, supervising and evaluating projects. Preparing and grading assignments, quizzes, and exams.

Masters in Electrical & Electronic Engineering Pohang University of Science and Technology, South Korea Feb 2007 ~ Feb 2009	Project: Plasma Display Panel Controller Designing a digital data controller for plasma TV panel
Teaching Assistant College of EME, NUST, Pakistan Dec 2004~ May 2006	Course Units: Digital Communications, Digital System Design, Computer Architecture Conducting labs to undergraduate students. Grading assignments and quizzes.
Bachelors in Computer Engineering College of EME, NUST, Pakistan Dec 2001~May 2004	Project: Universal Receiver for automatic error scheme detection The project was focused on error detection schemes used for wireless data transmission. The automatic decoder had to choose out of multiple possible schemes used and apply the most appropriate decoding technique.

Projects

Disease detection from Medical Urine Strips	Medical urine strip is automatically assessed using Computer Vision based techniques, for the identification of diseases. It involves subtasks such as Image enhancements, box detections, color extractions, and matching.
Digital graph data extraction	Digital contents such as graphs, and text around it are identified and processed using various AI-based models. Layout parser, craft text detector, by tesseract, color-based clustering, and various other techniques are used to extract information.
Object/People tracking for video surveillance	The project focuses on detecting people/cars and their attributes from a surveillance video. The project was based on various deep-learning models handling each sub-task. The project uses models using various libraries, such as opencv, pytorch, tensorflow, keras, mxnet, ultralytics etc Additionally, it was developed using tools such as dockers, containerization, jupyter notebooks, AWS
OCR for dark text	The project focuses on developing a machine learning based technique for OCR. The aim is to identify the dark-colored text characters written on dark background. It is developed using Tensorflow/Python/Dockers.
Neuron Architecture	The project focuses on developing a new structure of an artificial neuron. The aim is to develop a technique for less machine learning training computation. It is developed using Matlab-based CNN architectures.
Crowd Image Analysis	The project focuses on machine learning-based crowd image analysis techniques. The aim is to locate the heads and bodies of multiple people in the crowd image and

	identify their head poses. The technique is developed using Torch and Matlab libraries.
Assistive haptic-based rehabilitation robot for improving the stability of stroke patients	The project was focused on the rehabilitation of stroke patients. The assistive robot provided haptic touch feeling to the stroke patient. Based on the instability of the patient, the robotic arm would move the forearms of a patient to provide necessary assistance for improving stability.
Simulator for smartphone-controlled 6-DoF Manipulator for Industrial robots	The project was focused on controlling a 6Dof robotic arm used for industrial work like drilling and picking. The robotic arm was controlled by a smartphone. The status of the robotic arm was continuously monitored on the desktop screen as well as the mobile device. It involved high-speed transmission of control signals and status signals over the wireless network for fast communication.
Design of Subfield data aligner for Plasma Display Panel	The project was focused on the digital circuit design of the Plasma TV sub controller. The RGB image data had to be stored in memory and sent for screen, while keeping the timing synchronization in view.The research was focused on memory efficiency and synchronized behavior of the data aligner.
Universal Receiver for automatic error scheme detection	The project was focused on error detection schemes used for wireless data transmission. The automatic decoder had to choose out of multiple possible schemes used and apply the most appropriate decoding technique.

Scholarships

- MIPS, Murdoch University, PhD Scholarship
- NIIED, Korean Govt Scholarship
- LG Research Scholarship, POSTECH, S.Korea
- MOST Scholarship, Pakistan
- NUST Scholarship, Pakistan

Extra Activities

- President, Murdoch University Muslim Student Association (MUMSA), Perth, Australia, 2018
- Public Relations Officer, Murdoch University Muslim Student Association (MUMSA), Perth, Australia, 2017
- President, International Students Association, Gyeongsang National University, South Korea, 2013.
- Faculty head, NUST Volunteers Club, Pakistan, 2011