Ammar Nasr

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Research Interests

Computer Vision, Generative models, Explainable AI

Education

The University Of Edinburgh   Edinburgh, UK

Artificial Intelligence MSc   2022 − 2023

The curriculum draws on research in AI and related fields such as linguistics, and mathematics taught by internationally known researchers.

University of Khartoum   Khartoum, Sudan

BA in Electric and Electronic Engineering   2014 − 2020

GPA: 8.64 (First Class with Honours).

Sheikh Mustafa Elamin Model High School   Khartoum, Sudan

High School   2011 − 2014

Ranked the 16th over more than 400,000 examined student in the nationwide Sudanese High School Exams.

Scholarships

Granted Full Scholarship for Bachelor Degree For Excellence in the Nationwide Sudanese High School Exams (Ministry of Higher Education)   2014

Publications

Training with single class images and Generalizing for multi-class images using Kasami Orthogonal Classification Layer

Mohamed Saadeldin, Ammar Khairi, Amel AbdElraheem, Arjun Pakrashi, and Brian MacNamee

Northern Lights Deep Learning Conference(NLDL) 2022

SemGAN: Text to Image Synthesis from Text Semantics using Attentional Generative Adversarial Networks

Ammar Nasr, Ruba Mutasim and Hiba Imam.

International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE), 2021.

Modeling, Visualization, and Analysis of African Innovation Performance

Muhammad Omer, Moayad El-Amin, Ammar Nasr, Rami Ahmed.

International Conference on Learning Representation (ICLR), 2020.

Skills

Programming

Programming languages: Python, Java, c#, SQL, and GoLang

Frameworks and Tools: Pytorch, TensorFlow, AWS, Doceker, GCP, Flutter,and Unity Gaming Engine.

Research Experience	**Graduation Project: Text to Image Synthesis Using GANs**
	Mentors: Professor Hiba Imam (University of Khartoum) November 2018 – September 2020
	Our work was focused on understanding how Attention Mechanism and Generative Adversarial Networks work. The improvements were algorithmic modification that boosted the original FID score by +13.93% rather than incorporating more powerful model that our resource limit could not allow.
	AI Team Sudan: Orthogonal Codes for Multi Label Classification
	Mentors: Dr. M. Momdoh (University Collage Dublin) January 2021 – Now
	Our team Consist of researchers from different levels and background. Currently we are working on different projects such as Earth observation, Mitigating texture Bias in CNN and I am working on novel approach for using Orthogonal Codes in Multi Label classification.
Projects	**K-Means Clustering For Classification Of Bio-Signals** March 2018
	Implemented Using Matlab on a dataset of CT-Scan images, this project identify heart disease from ECG signals by classifying signals into clusters based on extracted features.
	Mobile Board Game August 2019
	Initiated by MTN Mobile Telecommunication Company, Sudan, we develop two board games with a theme that reflect the Sudanese traditions and better fit the local market. The games are built for Mobile using Unity engine.
	Data Science Competition Platform June 2019
	Customized data science competition platform dedicated to Industry 4.0 and digital transformation challenges AI-Stream. General Technologies Used are Python, Angular, Bootstrap, PostgreSQL and Amazon S3 Buckets.
	Al-Hilla Project April - Now
	As a Data Scientist am working as a main author and data collector in this project. "Al-Hilla", which is the Sudanese term for the "neighborhood. The project aims to to provide open data about Sudanese neighborhoods in all cities. The expected outcomes are: areas of these neighborhoods, available facilities, shops, and residential blocks in them. The project can be found on Kaggle.
Teaching Experience	**Teaching assistant, Department of Electrical and Electronic Engineering (University of Khartoum)** 2021
	Computer Aided Design: Covering circuit theory and the mathematical and computational techniques required for computer aided analysis and design of electronic circuit. I was responsible with assigning and reviewing homework and overseeing practical labs.

Parallel Computing: The course covers all aspects of parallel computing from introduction to architectures to programming paradigms to algorithms to programming standards. I was responsible for preparing and presenting labs on both traditional Computer Science algorithms (sorting, graph and matrix algorithms), and data intensive algorithms (search, dynamic programming).

Work **Experience**	

Baylasan Innovation Production   Khartoum, Sudan

Data Scientist   January 2020 - May 2020.

Working as a part of the industrial production team, I used tools like Python and Pandas to scarab the web for relevant data (about Sudan's Agro-industries), analyze it and visualise it.

Code Software,   Khartoum, Sudan

Full Stack Developer   December 2020 - June 2021

Working with the major telecommunications companies in Sudan, I was responsible for Maintaining the VAS operations to ensure constant profit, updating legacy programs and implementing new features upon request using GoLang, Java, MySQL, NodeJs and Vue.

KooshLyncs For Software Solutions,   Khartoum, Sudan

Full Stack Developer   July 2021 - Now

As of now I am working in a new startup that provides software solutions to it's customer in Fin-Tech. I lead the development team by designing the software solution, managing micro-services implementation and structuring the Database. I work with Golang, Python, Docker and PostgreSQL

Activities

IndabaX Sudan   November 2019

Organizer and Instructor of the IndabaX conference 2019. In this conference we provide the machine learning community in Sudan with the opportunity to solidify their knowledge through workshops, catch up with the latest trends from experts in the field and build networks and connections with the international ML community.

IEEEXtreme   April 2017

An annual international 24-hour online problem-solving competition where teams compete in solving programming problems that require knowledge of algorithms and data structures applied in areas like graph theory , dynamic programming. In IEEEXtreme 9.0 our Team ranked 512 over more than 1800 teams, internationally and 9th in Sudan.

Ericsson ICT Professional Foundation Program   June 2018

The course provided by Ericsson aims target students from top university in the MENA region. I completed both stages of the program over the span of four months, in which I learned in depth about the industrial aspects of the ICT industry in topics like Network Operations, Information Infrastructure and Security, IOT and 5G