Mirgahney H. Mohamed

m.h.mohamed.20@ucl.ac.uk
mmerghaney@aimsammi.org

+44 7849 718391

https://mirgahney.github.io/
linkedin.com/in/mmirgahney

Education

PhD Student (current), University College London (UCL) |2020|.
M.Sc.(Dist.) African Institute for Mathematical Sciences (AIMS) |2019|.
African Master of Machine Intelligence (AMMI)
B.Sc.(Hons.) Science in Statistics and Computer Science, University of Khartoum | 2016 | GPA:7.203/10

Skills

Languages: Python, R, Java, C++, SQL.
Machine Learning : PyTorch, TensorFlow, Scikit-learn.

Extra-Curricular

Machine Learning Course Instructor @ IEEE Sudan & University of Khartoum, Faculty of Mathematical Sciences & Zain, international telecommunication company.
- The courses include various of topics such as: Artificial neural networks, SVM, Overfitting and Underfitting, Dimensionality Reduction and Recommender systems.

Co-Founder & Member @ MLSudaLab
- Presented Machine learning coerces & workshops & Seminars
- Courses & Seminars & Projects in Machine learning
`http://www.mlsudalab.com/`.

Work Experience and Internships

May'24 - Now Student Researcher — Google DeepMind London - London, UK
Work on representation learning for monocular 4D reconstruction.

Sep'20 - Now PhD student — University College London - London, UK
Interested in 3D computer vision. Working on representation learning for 3D deformed objects, supervised by Lourdes Agapito.

Feb'20 - Feb'21 AI Resident — Foundational AI Research, Meta - Menlo Park, CA US
Working on Inverse Reinforcement learning vision-based dynamics on multi-robots for navigation.

Jul'19- Feb'20 Engineering Intern — Qualcomm AI Research - Netherlands
Developing an open-source project to help diagnose diseases using AI. Conducting research using deep learning in the medical field.

Teaching Experience

2020 – 2024 Teaching Assistant — University College London - London, UK
Courses: Image Processing, Machine Vision, Introduction to Machine Learning, ML for Domain Adaptation and ML Seminars.

Research and Patents

2023 DynamicSurf: Dynamic Neural RGB-D Surface Reconstruction with an Optimizable Feature Grid — Mohamed *el.al.* 3DV 2024.

2022 GNPM: Geometric-Aware Neural Parametric Models — Mohamed *el.al.* 3DV 2022.

2021 Data and compute efficient equivariant convolutional networks — MHA Mohamed *el.al.* US Patent App. 17/170,745.

2020 A Data and Compute Efficient Design for Limited-Resources Deep Learning — Mohamed *el.al.* ICLR 2020 AI4 Developing Countries.

2019 Detecting Waterborne Debris with Sim2Real and Randomization — Fu *el.al.* AI for Social Good ICML2019

Service

2014 – Now Reviewer
Regular reviewer at ICLR, ICML, NeurIPS. Occasional reviewer for ICCV, ECCV

ExtraCurricular —

Co-Supervisor @ Sudan University for Science and Technology.
- Graduation research project *Ween*, Location system based on image processing and computer vision, where the students use Python Scikit-Learn library to make inferences about user-inputted images map locations and connected it with an Android APP.

Achievements

2017 Prize Best National Graduation Project in Computer Science- Sudan.
National competition on best graduation researches on the field of computer science.

2017 Prize Faculty award for the second academic achievement.

2015 First team prize of Sudan universities programming contest.
Award for the best programming team across all Sudanese universities.

2012 Professor Eltaher El-ageb award for applied mathematics.
Award which is given to the student who achieves the best grades in applied mathematics for their first year.

2012 Faculty award for the best academic achievement.

Selected Projects

2018 Stack Overflow Assistant Chat-Bot
Based on Python I used classification algorithms from *TensorFlow, scikit-learn and ChatterBot* library to make some out of purpose Q&A and text impeding to map user questions to dense representation and compare them with Stack Overflow data set, and I connected it with Telegram.

2016 Enhancing Enterprise Decision Making Using a Multi-Level Key Performance Indicators Monitoring Dashboard
We construct an interactive dashboard that summarizes and reflects companies performance, and predicts future performance using *ARIMA* models and analyze the past through anomaly detection using *AnomalyDetection* R library pointing out abnormality in company performance.

May-Aug'15 Social network analysis (SNA) for Sudani telecom company
In this project we perform extensive analysis for the customer data, where we model calling data as a network using R *igraph* library we discover the hidden communities and a correlation between them and ARBU rate and levels also with company churn rate providing valuable insights about customers.