Hamad H. Alsheraifi

Research Assistant at Khalifa University (KU)

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Education

U.A.E. University (UAEU) Al Ain, Abu Dhabi
B.Sc. Computer Engineering *May 2021*
Major GPA: 3.68
Cumulative GPA: 3.51

Relevant Skills

Data Science (AI-specific)
Machine Learning, Data Pre-processing, Feature Engineering, Time Series Analysis/Forecasting, Hyperparameter Tuning, Regression, and Classification
Data Science TOOLS
Scikit-Learn, Pandas, Numpy, Matplotlib, CatBoost, XGBoost, Darts, Statsmodels, Seaborn, Keras, SDV, OpenCV, IDEs (Jupyter, Kaggle, Google Colab)
Programming
Python, C++, LaTeX, Linux Command Line, Arduino, Rust (basic)
Bioinformatics
Genotype-phenotype analysis using Python and Plink for [GWAS for SNP extraction, Cohorting for stratification, Quality Control for Data integrity]

Research Experiences

Research Assistant — Al-Nokhba Program *September 2022 – Present*
Center for Biotechnology (BTC), Khalifa University (KU)
Mentors: Dr. Vijay Wadi (BTC), Dr. Mariane Daou (BTC)
My research project involves the time series analysis of clinical SARS-CoV-2 data and wastewater data, which are derived from laboratory-analyzed RNA samples. The objective of this project is to uncover trends and correlations between the spread of the virus in the population and the presence of viral RNA in wastewater samples, following the application of a machine learning model to predict trends.

GANs Research Project — Al-Nokhba Program *July 2022 – October 2022*
Emirates ICT Innovation Center, KU
Mentor: Prof. Ernesto Damiani (C2PS)

In this research project, I contributed to the development of a Generative Adversarial Network (GAN) model in conjunction with a Random Forest classifier for analyzing a dataset of system calls. My work involved not only implementing the GAN model but also conducting extensive literature review, refining the abstract, and providing an overview of GANs in the context of our research. Additionally, I played a key role in the testing phase, drawing conclusions from the results, and making data-driven optimization decisions. My contributions to the project culminated in a research paper that showcased the effectiveness of our proposed approach in the given application domain.

On-Board Computer Simulation *January 2021 – April 2021*
National Space Science & Technology Center, UAEU
Internship Project — Advisor: Dr. Mohammad Naouss (NSSTC)
Developed a desktop-GUI On-board Computer (OBC) simulation using Python and Arduino, successfully replicating satellite telecommand and telemetry processes through UART communication protocol. My work significantly contributed to the team's handling of satellite communication systems, leading to the continued use of the software I built.

Scooter Incident Reporting System *January 2020 – December 2020*
College of Information Technology, UAEU
Undergraduate Project — Advisor: Dr. Fekri Kharbash (UAEU)
I actively contributed to a range of technical tasks, literature review, and revisions for the final paper. My technical roles involved configuring algorithms and processes between the device and IoT platform. Recognizing the project's potential, our team was nominated for a final defense presentation. I took the responsibility of designing the poster, showcasing our work to faculty members.

Teaching Experience

Peer Tutor, Tutorial Center (UAEU) *Fall 2017*
UGRU English Levels 1-4
Assisted students in English language mainly in Speaking, Writing, and Grammar. Helped students prepare for English tests, both IELTS and UGRU.

Honors and Awards

Al-Nokhba Program Member: Selected as 1 of 32 for the 17th Batch of UAE national service, in collaboration with NSRA, to conduct research and enhance research skills at KU. *June 2022 – Present*
Invited Paper: Recognized for outstanding research on tabular-based GAN model for classification, resulting in an invitation to present at IEEE BigData 2022. *August 2022*
Winner of Fall 2020 Best Senior Project Contest, UAEU: Secured first place among 39 senior projects, showcasing excellent teamwork and research.
Dean's List: Maintained an undergraduate minimum GPA of 3.6 per semester. *2018-2020*

Publications

Long-Term Study on Wastewater SARS-CoV-2 Surveillance Across United Arab Emirates *Published*
Vijay S. Wadi, Mariane Daou, Noora Zayed, Maryam Aljaberi, Hamad H. Alsheraifi, Saeed S. Aldhaheri, Miral K. Abuoudah, Mohammed Alhammadi, Malika Aldhuhoori, Alvaro Lopes, Abdulrahman Alalawi, Ahmed Yousef, Shadi Hasan, Habiba Alsafar.
Science of the Total Environment

Using Generative Adversarial Networks to Simulate System Calls of Malicious Android Processes *Published*
Hamad H. Alsheraifi, Hussain M. Sajwani, Saeed M. Aljaberi, Abdelrahman A. Alblooshi, Ali H. Alhashmi, Saoud A. Sharif, Ernesto Damiani.
IEEE BigData 2022

Volunteering and Extracurricular

Participated in the UAEU Science & Innovation Park (UAEU SIP) event "Coro navirus Awareness Contest" as a web-dev participant. *March 22, 2020*

Volunteered at UAEU's Sports Complex in helping organize and manage chess tournaments at UAEU. *Fall 2017 – Fall 2019*

Volunteered in the University Health Promotion Program: Students' Needs Assessment at UAEU. *February 2019*

Attended the IEEE 13^{th} International Conference on Innovations in Information Technology. *November 2018*

Volunteered for several days at a veterinary clinic for a research project to raise awareness on the common ailments found in cats and dogs in the UAE. The project is compiled in a video format. *March – April 2018*

Participated in the 4th UAEU Annual Undergraduate Student Research Conference 2018 to share our research based on the prevalence on diabetes in the UAE. *April 2018*