

Hamad H. Alsheraifi

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Education

U.A.E. University (UAEU)

B.Sc. Computer Engineering

Al Ain, Abu Dhabi

May 2021

Technical Proficiency

Programming Languages

Python, C++, Julia

Data Science & Machine Learning

- Algorithms: Regression, Classification, Time Series Analysis/Forecasting
- Processes: Data Pre-processing, Feature Engineering, Hyperparameter Tuning
- Tools: Scikit-Learn, Pandas, Numpy, Matplotlib, Seaborn, Flux.jl, PyTorch
- Advanced Libraries: CatBoost, XGBoost, Darts, Statsmodels, SDV

Software & Tools

- IDEs: Jupyter, Kaggle, Google Colab
- Version Control: Git
- Others: LaTeX, Linux Command Line, Arduino

Domain Knowledge

Radar Technology

- Introduction to radar system fundamentals, including signal processing and radar data analysis.
- Application of software development practices in enhancing radar system functionality and performance.
- Utilization of data science techniques for the analysis of radar-generated data, focusing on target classification.

Bioinformatics

- Applications: Genotype-phenotype analysis, GWAS for SNP extraction
- Data Management: Cohorting, Stratification, Quality Control (e.g., LD Pruning, HWE)

Research Experience

Associate Researcher

Tawazun Technology & Innovation (TTI),

August 2023 – Present

Since joining the Radar & EW department, I have been engaged in software development projects aimed

at improving radar system operations and efficiency. My contributions include:

- Developing and optimizing software tools that interface with radar systems to enhance data acquisition and processing, such as building a simulation that reads input signals and use this data to classify them via machine learning.
- Collaborating with the engineering team to integrate new software solutions, leading to more accurate and reliable radar performance.

Research Assistant

Center for Biotechnology (BTC), Khalifa University (KU),

September 2022 – July 2023

I conducted time series analysis on clinical and wastewater SARS-CoV-2 RNA samples to identify trends and correlations in virus spread, utilizing machine learning for trend prediction.

GANs Research Project

Emirates ICT Innovation Center, KU,

July 2022 – October 2022

I played a pivotal role in developing and implementing a GAN model alongside a Random Forest classifier for system calls analysis, leading to key insights and optimizations. My contributions spanned from literature review to testing and were instrumental in producing a research paper that demonstrated our approach's effectiveness.

On-Board Computer Simulation

National Space Science & Technology Center, UAEU,

January 2021 – April 2021

Developed a Python and Arduino-based desktop-GUI for OBC simulation, accurately replicating satellite telecommand and telemetry via UART. This software became a vital tool for the team's satellite communication protocols.

Scooter Incident Reporting System

College of Information Technology, UAEU,

January 2020 – December 2020

Contributed technically and academically to my undergraduate project, focusing on algorithm configuration for IoT connectivity. Led the design of a presentation poster for the final defense, earning team recognition.

Teaching Experience

Peer Tutor, Tutorial Center (UAEU)

Fall 2017

Assisted students in English language mainly in Speaking, Writing, and Grammar.

Publications

1. "Long-Term Study on Wastewater SARS-CoV-2 Surveillance Across United Arab Emirates"
Science of the Total Environment *Published*
2. "Using Generative Adversarial Networks to Simulate System Calls of Malicious Android Processes"
IEEE BigData 2022 *Published*

Honors and Awards

- **Al-Nokhba Program Member (June 2022 – July 2023):** Selected for UAE national service research program at KU, one of 32 in the 17th Batch.
- **Invited Paper at IEEE BigData 2022 (August 2022):** Led the development of a high-performing tabular-based GAN model for classification and authored the paper, leading to an invitation to present at IEEE BigData 2022.
- **Winner of Fall 2020 Best Senior Project Contest, UAEU:** Secured first place among 39, demonstrating exceptional teamwork and research capability.
- **Dean's List (2018-2020):** Consistently attained a GPA above 3.6.

Volunteering and Extracurricular Activities

- Participated in the UAEU SIP event “Coronavirus Awareness Contest” as a web-dev participant, March 22, 2020.
- Volunteered at UAEU's Sports Complex in organizing and managing chess tournaments, Fall 2017 – Fall 2019.
- Volunteered in the University Health Promotion Program: Students' Needs Assessment at UAEU, February 2019.
- Attended the IEEE 13th International Conference on Innovations in Information Technology, November 2018.
- Volunteered at a veterinary clinic for a research project, March – April 2018.
- Participated in the 4th UAEU Annual Undergraduate Student Research Conference 2018.