Mohammed Khalil Ghali

65 Albert Street, Johnson City NY, 13790
mghali1@binghamton.edu| (607) 312-8792|
https://www.linkedin.com/in/mohammed-khalil-ghali-11305119b | https://github.com/khalil-ghali

EDUCATION

Binghamton University, State University of New York - Watson College of Engineering and Applied Science
Master of Science in Systems Science and Industrial Engineering   **Expected May 2024**
Al Akhawayn University in Ifrane - School of Science and Engineering, Ifrane, Morocco
Bachelor of Science in Computer Science   **June 2022**
Cumulative GPA: 3.55 (Magna Cum Laude)
Minor: Business Administration
Related Courses: Big Data Environment, Intro to AI, Software Engineering, Computer Organization and Architecture, Operating Systems, Computer Communication, Object Oriented Programming, Data Structures, Analysis of Algorithms, Principles of Management, Principles of Finance, Multivariate Analysis, Enterprise Systems Engineering, Engineering Project Management, Modeling and Simulation, Probability and Statistics.

RESEARCH EXPERIENCE

Watson Institute for Systems Excellence, Binghamton University   **Binghamton, NY**
Graduate Research Associate: Innovation Associates   **Fall 2022/Present**
- Building and optimization of an automated prescription-based medication filling system simulation model.
- Designing the control flow code of the simulation models to make every station precisely mimic the real life role in the actual system.
- Extract knowledge and insights from noisy, structured and unstructured data to help in informed decision making
- Writing the python script to generate the transactional data to run the simulation based on the actual demand

Graduate Research Associate: LockerRoom345   **Fall 2022/Present**
- Contributed in the end-to-end development and launch of LockerRoom345's website, enabling the non-profit organization to provide basic clothing to students in need within the Binghamton area schools through donations from Dick's Sporting Goods(DSG).
- Collaborated with stakeholders and volunteers to understand LockerRoom345's mission and translate it into a user-friendly website design that effectively communicated the organization's impact and resources.
- Participated in the implementation of a responsive website, utilizing JavaScript to architect a robust and scalable platform that ensures optimal user experience across devices, enables easy access to admin operations, and efficiently handles data for seamless interactions.
- Employed MongoDB as the NoSQL database to store and manage dynamic content, providing efficient data retrieval and storage for the website's clothing inventory, shipping records, and user information.
www.lockerroom345.org

PROFESSIONAL EXPERIENCE

Center for Learning Excellence at Al Akhawayn University   **Ifrane, Morocco**
CRLA Certified Mentor   **Fall 2020/ Spring 2022**
- Monitored more than 50 assigned mentees in their academic progress through frequent communication and weekly one-on-one sessions.
- Helped more than 100 freshmen, sophomore, junior, and senior students in academic matters.
- Assisted more than 100 students in the drafting of their degree plans and revisions (helping in the choice of minors and concentrations).

Holding Soraya, Arrawaj Foundation   **Rabat, Morocco**
Security and Network Project Management Intern   **Summer 2021**
- Assisted in the overhaul of the traditional 3-tier security and network architecture that was used.
- Worked on the installation of a hyperconverged infrastructure (Nutanix HCI) that will increase the production capability of the holding by up to 60%.
- Contributed to the setup of a Fortinet web application firewall to decrease the risk of DDoS attacks by 80%.
- Participated in the setup of a Fortinet Security Information and Event Management system (SIEM) against top 10 OWASP vulnerability attacks.

CLASS PROJECTS

Capstone Project   **Ifrane, Morocco**
Virtual Desktop Based Infrastructure Analysis at AUI   **Spring 2022**
- Performed a 360 degrees analysis of the AUI virtualized environment including the hyperconverged infrastructure.
- Supervised a full analysis of the virtual desktop infrastructure, including an overview presented by VMware dashboards leading to an improvement of virtual machines performance by 20%.
- Designed the performance analysis focusing on various KPIs defined through 10 different benchmarks represented in 10 differently customized dashboards.
- Designed solutions to improve the whole infrastructure were presented based on the results of performance monitoring and analysis which led to a nearly 5% performance increase.
- Performed a STEEPLE analysis to investigate the external and internal implications of the project.

Big Data, and Machine Learning Project   **Binghamton, USA**
Big Data Analytics Approach for World Cup Sponsoring Decision Making   **Fall, Spring 2023**
- Leveraged a Big Data Analytics approach, incorporating logistic regression, PySpark, and Azure Databricks, to build a prediction model for World Cup games outcomes and provide data-driven recommendations for sponsoring decisions.
- Implemented logistic regression models utilizing large datasets to analyze historical World Cup data, enabling accurate predictions of game outcomes and team performances.
- Employed PySpark and Azure Databricks to efficiently process and analyze massive volumes of data, ensuring scalability and real-time insights for dynamic decision making.
- Delivered actionable recommendations on teams to sponsor based on the predictive analytics results, providing valuable insights for maximizing sponsorship ROI in the context of the World Cup.
- Paper submitted and presented in ISE conference

Global Learning Platform   **Ifrane, Morocco**
Object-Oriented class final project   **Spring 2021**
- Designed a Coursera-like application for learning management.
- Implemented the application using Object-Oriented concepts among which inheritance, polymorphism, abstraction, and encapsulation using Java programming language.

Business Management Desktop Application   **Ifrane, Morocco**
Real beauty salon management application post Covid 19   **Fall 2020**
- Designed alongside a team the skeleton of this desktop application with all functionalities that a beauty salon needs ranging from appointments scheduler to an inventory system and financial documents generating leading to a decrease in calculation errors and waiting time by 50%.
- Implemented the application using the concepts we learned in software engineering class using a Waterfall methodology which contributed to a better and more organized management.

AWARDS

5x AUI School of Science and Engineering Dean's List:
- Fall: 2019, 2021.
- Spring: 2020, 2021, 2022.

AUI Merit Based Scholarship   **Fall 2018**
- A merit-based offer awarded to excellent newly admitted undergraduate students.
- Top 15 AUI engineering cohort graduates.
- Top 10 computer science department cohort graduates.

TECHNICAL & RELEVANT SKILLS

Computer Tools and Technologies: MS Office, Cloudera, Amazon Web Services, Hyperconverged Infrastructures, Data Centers Virtualization and Optimization, Data Centers Management, Java, C, VMware, SQL, Big Data, Data Analysis Python, PySpark, Scala, Cloud Computing.
Languages: Arabic: Native, French: Bilingual, English: Professional Working Proficiency, Spanish: Elementary Proficiency.
Certifications: Elements of Building AI, Software Processes and Agile Practices, CFA: Ethical Financial Decision Making, Build, Train, Deploy ML Models with BERT.