Malek sherif Mahmoud

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○ github account 🔗 Portfolio

EDUCATION

International A level (IAL/AL)   08/2020 – 06/2021
Alrowad international school
- Mathematics got A*
- AS physics got B

International Foundation year in sheffield(IFY)   09/2021 – 06/2022
- Mathematics got 80
- physics got 69

MCOMP Computer Science (Artificial Intelligence) with year in industry   09/2022 – 06/2027
University Of Sheffield 🔗   Sheffield,
Currently in my third year, maintaining a strong academic record and aiming for   United Kingdom
first-class honours. Some of the key modules and their marks include:
- Introduction to Software Engineering 55
- Introduction to Algorithms and Data Structures got 68
- Devices and Networks 75
- Systems Design and Security 53
- Java Programming 69

TECHNICAL SKILLS

Programming Languages — Proficient
Ruby, Python,Java and Haskell

Web development — Proficient
Proficient in HTML5, CSS,
jQuery,JavaScript,Node.js,Express.js and React.js

Design — Proficient
Figma, Lucidchart, Canva and Adobe Photoshop

Software Development — Proficient
Agile Methodologies (Scrum), Software Lifecycle,
System Design, UML Diagrams, State Machines

Communications and teamwork — Proficient

English — Proficient

Database — Proficient
SQLite,MySQL and PostgreSQL

Testing — Proficient
Unit testing, Manual testing, integration
testing,Acceptance testing

Microsoft — Proficient
Excel, word, PowerPoint and Access

problem-solveing — Proficient

Arabic — Proficient

Machine Learning — Proficient
- supervised learning: Naive Baye classification,
  Linear Regression, K-Nearest Neighbors (KNN)
- unsupervised learning: K-means clustering,
  Principal Component Analysis , hard k-means
  clustering, soft k-means clustering, Gaussian
  Mixture Models (GMMs)
- neural network

COMPUTER SCIENCE EXPERIENCE

Website Development Project   09/2022 – 06/2023
- **Role:** Full-Stack Developer and Project Lead
- **Technologies Used:** Ruby on Rails, JavaScript, WebSockets, HTML5, CSS3, SQL
- **Key Contributions:**
  -Architected a robust full-stack web application that provided real-time updates
  through WebSocket integration, ensuring seamless communication between the
  Ruby backend and JavaScript frontend.
  -Led the software development lifecycle, from gathering and analyzing
  requirements to deployment, adhering strictly to Agile methodologies (Scrum) to
  ensure continuous integration and delivery.
  -Managed database schema design and optimization, ensuring efficient data
  retrieval and storage using SQL.

-Resolved complex compatibility issues between the backend and frontend, implementing solutions that improved performance and user experience.

Introduction to Linux – Full Course for Beginners (Self-Led Learning) 06/2023 – 08/2023
- Completed an in-depth introductory course on Linux, gaining a solid understanding of the Linux operating system, its structure, and core command-line tools.
- Learned to navigate the Linux file system, manage user permissions, and configure system settings, which are critical skills for maintaining and troubleshooting Linux environments.
- Practiced basic shell scripting and automation, enhancing my ability to perform routine administrative tasks more efficiently.
- This course equipped me with the essential knowledge needed to work in Linux environments, complementing my broader systems administration skills.

Train Model Application 09/2023 – 02/2024
- **Role:** Software Developer and Database Manager
- **Technologies Used:** Java, MySQL, UML, JDBC, Git
- **Key Contributions:**
  -Developed a comprehensive train simulation application, focusing on designing and implementing a scalable MySQL database structure, optimizing it for high-performance data access.
  -Utilized Java for backend development, integrating database connectivity through JDBC, ensuring secure and efficient data handling.
  -Applied security best practices by implementing SQL injection prevention techniques and secure password hashing algorithms.
  -Facilitated efficient project management by adopting Scrum methodologies, which included daily stand-ups and sprint reviews to keep the team aligned and productive.

Chessboard Diagram Classifier 09/2023 – 02/2024
- **Role:** Machine Learning Developer
- **Technologies Used:** Python, Principal Component Analysis (PCA), K-Nearest Neighbors (KNN), Pandas, Matplotlib
- **Key Contributions:**
  -Developed a Chessboard Diagram Classifier that utilized machine learning algorithms to classify chessboard states based on image data, enhancing my understanding of algorithmic implementation and data manipulation.
  -Implemented Principal Component Analysis (PCA) to reduce dimensionality and K-Nearest Neighbors (KNN) for classification, from scratch, deepening my expertise in machine learning and statistical modeling.
  -Applied advanced image processing techniques and pattern recognition to extract and analyze chessboard features, improving the model's accuracy and performance.
  -Leveraged Python libraries such as Pandas and Matplotlib to manage and visualize complex datasets, reinforcing my ability to derive meaningful insights from high-dimensional data.

TurtleBot3 Programming 02/2024 – 06/2024
- **Role:** Robotics Programmer
- **Technologies Used:** Python, ROS (Robot Operating System), Gazebo, Rviz
- **Key Contributions:**
  -Programmed and controlled TurtleBot3 Waffle using Python and ROS, implementing nodes, services, topics, and publishers/subscribers for inter-process communication.
  -Developed and tested algorithms for autonomous navigation and obstacle avoidance, enhancing the robot's operational efficiency in simulated environments using Gazebo and Rviz.
  -Conducted performance tuning and debugging within the ROS ecosystem to optimize the robot's response time and decision-making processes.

AI Learning Plan Assistant (IBM-Supported Project) 02/2024 – 06/2024
- **Role:** AI Developer and Project Lead
- **Technologies Used:** IBM Watson Assistant, Natural Language Processing (NLP), Agile Methodologies
- **Project Overview:**

Developed an AI chatbot assistant designed to guide university students through IBM Skills Build and IBM Academic Initiative platforms. The chatbot recommended tailored learning experiences based on the user's career aspirations, skills development needs, and project interests.

- **Key Contributions:**
  - **User-Centric Design:** Created detailed user personas and developed user stories to ensure the chatbot met diverse needs, ranging from business students curious about technology to aspiring AI specialists seeking advanced courses.
  - **Natural Language Processing (NLP):** Implemented IBM Watson Assistant to process user input, extracting relevant information about their educational background and career goals to recommend appropriate courses. The chatbot used NLP to match these inputs against a curated database of IBM learning resources.
  - **Course Recommendation Engine:** Designed and developed the core recommendation engine that analyzed user inputs and suggested relevant courses. Integrated a feedback loop that allowed users to refine their search through additional questions, enhancing the relevance of recommendations.
  - **Interactive User Interface:** Developed a user-friendly interface that included both free-text input and radio button options, ensuring accessibility for users with varying levels of technical expertise. The interface was optimized for clarity, conciseness, and ease of navigation.
  - **Data Analysis and Storage:** Conducted an in-depth analysis of IBM Skills Build and IBM Academic Initiative content, identifying key concepts and linking them to specific learning experiences. Stored and managed these linkages to ensure accurate and relevant course recommendations.
  - **Agile Development:** Led the project through an Agile framework, ensuring iterative development and regular client feedback. Managed a team of developers, coordinated sprints, and delivered the final product on time, meeting all client expectations.
  - **Accessibility Considerations:** Incorporated non-functional requirements to enhance accessibility, such as text-to-speech options and adjustable font sizes, making the chatbot usable by a wider audience, including those with disabilities.

Engineering you're hired (EYH)   01/2024 – 01/2024

- Collaborated with a multidisciplinary team of 5 engineers to map the ocean using swarm robotics, integrating expertise from various engineering disciplines
- Responsibilities included coding the robots and ensuring cybersecurity.
- Developed resilience and excellent time keeping skills by simulating a full 9am-5pm work schedule with added flexibility through extending working time to 7pm if extra attention was needed in the project
- Enhanced presentation skills and confidence through presenting project findings to an engineering panel

EMPLOYMENT EXPERIENCE

Publicity officer CS society

- Organized and coordinated all Computer Science Society events, ensuring successful execution and high attendance.
- Managed and grew the society's social media presence across multiple platforms, increasing engagement and outreach.
- Designed promotional materials, including event posters and digital content, using industry-standard design tools such as Adobe Photoshop and Canva.
- Collaborated with team members to brainstorm and implement creative ideas for events and campaigns, enhancing the society's visibility and impact.