Mohammad Helaly

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EDUCATION

M.Sc. in Computer Science
Universität Passau

April 2025 - Present
Passau, Germany

- Pursuing a master's degree in computer science as an international student.
- Focusing mainly on software engineering, with interests in data science and machine learning.

B.Sc. in Computer and Communications Engineering
Faculty of Engineering, Alexandria University

September 2019 - July 2024
Alexandria, Egypt

- Graduated with a 3.4 GPA.

IGCSE
AIS - Alexandria International School

Graduated in June 2019
Alexandria, Egypt

WORK EXPERIENCE

Software Engineer
VAES.ai

July 2024 – Present
Dubai, UAE

- Developed rich front-end, animation-heavy websites using React.js and Next.js.
- Worked on serverless back-ends and database management for several company projects.
- Created and contributed to full-stack projects, integrating front-end and back-end technologies.
- Built software tools and plugins with Python, adhering closely to design patterns and SOLID principles.
- Integrated external APIs and services to implement features and enhance functionality.
- Enhanced the company ERP using NetSuite, streamlining processes and data management.
- Employed software development best practices, ensuring code quality, scalability and maintainability.
- Contributed to all stages of the development lifecycle for several projects, from design to deployment.
- Conducted and coordinated code reviews, testing, CI/CD and other facets of software development.
- Worked in agile teams, engaging in sprint planning and daily stand-ups for iterative development.
- Prepared and conducted interviews for software engineer applicants, assessing technical skills and fit.

Software Developer
InstaCódigo

January 2024 – June 2024
Dubai, UAE

- Developed cross-platform, user-friendly mobile applications using React Native.
- Built robust, highly scalable web applications using Next.js while employing SEO techniques.
- Utilized Solito to develop both Expo and Next.js apps for web and mobile, all with React Native.
- Integrated modern tools and libraries for internationalization of web and mobile apps.

Navigation System Engineer
Alex Eagles Aero Design

September 2023 – December 2023
Alexandria, Egypt

- Engineered software for fully autonomous drone navigation, enabling self-flying capabilities.
- Designed deep learning models for precise computer vision and autonomous navigation capabilities.
- Developed scripts with the DroneKit API to navigate to waypoints obtained from deep learning models.
- Utilized Jupyter Notebook for developing deep learning models and Python for software development.

Intern Data Scientist
SLB - Schlumberger

July 2023 – August 2023
Cairo, Egypt

- Cleaned and preprocessed large datasets thoroughly, while conducting exploratory data analysis.
- Developed machine learning models to extract valuable insights from complex datasets.
- Utilized Python, Jupyter Notebook and Dataiku DSS for data manipulation and analysis.
- Worked on setting up and administering Linux servers and deploying enterprise-scale databases.

TECHNICAL SKILLS

Programming Languages

- Python, C, C++, Java, HTML, CSS, JavaScript, TypeScript, PHP, GoLang, Bash and MATLAB.

Tools, Technologies and Frameworks

- **Software Development:** React.js, React Native, Next.js, Node.js, Express.js, SST, Flask, MongoDB, MySQL, Socket.io, Java Swing and PySide6.
- **Data Science and Machine Learning:** Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, PyTorch, TensorFlow, Keras, Jupyter Notebook and Dataiku DSS.
- **DevOps and Cloud Development:** Git, Docker, Linux Shell and AWS.

ACHIEVEMENTS

Global Winner of the NASA Space Apps Challenge | Global Winner | Lunar Trek
NASA

January 2024
International

- Won the 2023 NASA Space Apps Challenge globally out of over 8700 teams.
- Awarded the Best Use of Science Award for building Lunar Trek.

National Competitor in the SITA Ideation Hackathon | Helprr
SITA - Supporting Innovation and Transformation Academy

December 2023
Cairo, Egypt

- Competed nationally in the 2023 SITA Ideation Hackathon.
- Reached the pre-incubation phase and achieved high honors for building Helprr.

PROJECTS

Online Learning Platform | GitHub | Learnly

- Developed an online learning platform for students and instructors to enroll in and create courses, using React.js, Node.js, Express.js, MongoDB and Socket.io.
- Built features such as a course marketplace, live meetings, real-time chatting and a course creator.

Blindness and Deafness Support App | GitHub

- Developed a mobile app designed to support blind and deaf people using React Native.
- Utilized a pre-trained deep learning model for visual object detection in live video feeds from the phone camera and implemented text-to-speech and speech-to-text functionalities.

Visual Question Answering | GitHub | NeuralVisions

- Developed a web app for answering open-ended questions about images, reaching 68% accuracy and 80% answerability, using Python, Flask and React.js.
- Designed a deep learning model incorporating the OpenAI CLIP encoder, trained on the VizWiz dataset.

Lunar Seismic Event Visualization | GitHub | Lunar Trek

- Developed web app to visualize lunar seismic events, sourced from NASA's Apollo Seismic Event Catalogue, using React.js and Unreal Engine 5.
- Conducted time series analysis on seismic data and presented visualizations on a 3D model of the moon.

EXTRA-CURRICULAR ACTIVITIES

German Teaching Assistant
MIG Academy

July 2022 – August 2022
Alexandria, Egypt

- Prepared lectures and communicated information to students using interactive learning techniques.
- Planned and scheduled course contents and designed placement tests and assessments.
- Assisted in grading assignments and tracking student progress throughout the course.
- Provided feedback on student presentations and learning outcomes.