ASEM BAKR

Alexandria, Egypt asem.abdelhamid@ejust.edu.eg +201027142346
Asem Bakr assembakr Military Service: Exempted

Summary

A fresh Computer Engineering graduate with hands-on experience in software development and a strong foundation in machine learning. Passionate about building reliable, user-focused software and continuously learning new technologies. Completed several academic and practical projects, including a deep learning-based video summarization system. Actively seeking a software engineering role where I can contribute to impactful products and grow my skills in both backend and intelligent systems.

Skills

- **Programming Languages:** Python, JavaScript, C++, C#
- **Web Development:** HTML5, CSS3, Tailwind CSS, Bootstrap, React.js, Node.JS, .Net, Docker, Kubernetes
- **Machine Learning & Deep Learning:** TensorFlow, PyTorch, OpenCV
- **Tools & Platforms:** Git, GitHub, Linux
- **Databases:** Firebase, MySQL, SQLite, MongoDB
- **Soft Skills:** Teamwork, Problem-solving, Communication, Time Management

Education

Egypt-Japan University of Science and Technology (E-JUST) 2020 – 2025
Bachelor of Computer Engineering. (CGPA: 3.34 "Very Good")

High School 2017 - 2020
Al-Tod Secondary School (408/410) 99.51%.

Route Academy 2025 - present
FullStack Development

Experience

Front-End Developer - Career 180 Nov 2024 – Jan 2025

- Gained hands-on experience with **HTML, CSS, Tailwind CSS, Bootstrap, JavaScript, and React.**
- Built interactive and responsive web applications using modern frontend technologies.
- Developed a strong foundation in UI/UX best practices and performance optimization.

Coding Instrucor - iSchool Jun 2024 – Dec 2024

- Taught coding fundamentals to children using mBlock, Scratch, and Godot Engine, designing interactive lessons and hands-on projects to enhance problem-solving, creativity, and logical thinking in an inclusive learning environment.

DevOps Engineer - DEPI Apr 2024 – Nov 2024

- Gained practical experience in DevOps, including version control, containerization, orchestration, CI/CD automation, and cloud infrastructure management, applying best practices to enhance system reliability and efficiency.

Computer Network and CyberSecurity Training - ITI Aug 2023 – Sep 2023

- Covered key **CCNA** concepts including IP addressing, subnetting, routing, and switching.
- Hands-on Cisco **Packet Tracer labs** simulating real-world network configurations and troubleshooting.

- Gained practical skills in configuring routers, switches, and VLANs.
- Explored cybersecurity fundamentals such as firewalls, intrusion detection, and ethical hacking techniques.

Projects

Video Summarization using Deep Learning GitHub Feb 2025

- Built an end-to-end video summarization system that combines visual and textual data to generate concise summaries. The pipeline includes keyframe extraction, speech-to-text conversion, text summarization using transformer-based models, and final video generation. Contributed to the development, model integration, and optimization of system components using Python, PyTorch, and NLP techniques.
- Deployed the system as a web application called **ATOMize.ai** using **.NET**, enabling users to upload videos and receive AI-generated summaries through an interactive and user-friendly interface.
- Tools Used: Python, PyTorch, FastApi, Transformers, OpenCV, .Net

Attendance System GitHub Jan 2024

- Developed a computer vision-based attendance system using real-time face recognition.
- Integrated the model with a Flask-based mobile-friendly website for attendance management for the academic staff.
- Tools Used: Python, Flask, Dlip, OpenCV.

Tech-Trolly GitHub Dec 2023

- Comprehensive E-Commerce desktop application with user management, cart, grocery listing, advanced filtering options, search capabilities, purchase analytics, coupons, and expiration discounts.
- Built using Python's Tkinter library and SQLite for robust and efficient performance.
- Tools Used: Python, tkinter, SQLite

Arabic Music Classification and Generation using Deep Learning GitHub Jul 2023

- Designed a deep learning model to classify Arabic music based on composers using CNN.
- Implemented a generative auto-encoder model to generate new Arabic music pieces.
- Utilized TensorFlow and other frameworks for high accuracy in music classification and generation.
- Tools Used: Python, tensorflow, keras, Pandas, librosa.

Unveil Egypt GitHub Mar 2023

- A responsive web platform enabling tourists to explore Egyptian cities, monuments, and activities, and allowing registered guides to offer services
- Built backend services with Node.js and Express.js, defining routes for pages like home, city explorer, and activity listings
- Designed and managed MongoDB schemas using Mongoose for tourists and tour guides, supporting signup/login and dynamic guide searches.
- Tools Used: HTML, CSS, JavaScript, Node.JS.

Publications

1. "Video Summarization: A Comprehensive Review". *Informatics in Control, Automation and Robotics (ICINCO)*, 2024. DOI: `https://doi.org/10.48550/arXiv.2410.04449`.
2. "Arabic Music Classification and Generation using Deep Learning". *6th International Conference on Imaging, Vision and Pattern Recognition (IVPR) and the 11th International Conference on Informatics, Electronics & Vision (ICIEV)*, 2023. DOI: `https://doi.org/10.48550/arXiv.2410.19719`.

Languages

Arabic: Native

English: Good