

Kirolos Mikhail

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EDUCATION

The American University in Cairo, Egypt
Bachelors of Science in Computer Engineering

Sep 2019 - Dec 2023
GPA: 3.6/4.0

EXPERIENCE

BM Digital Factory
DevOps Developer

August 2023 - September 2023
Cairo, Egypt

- Learned how to use Docker, Kubernetes and Jenkins and was able to create a full CI/CD project

YMC Groups
Full Stack Developer

June 2022 - January 2023
Cairo, Egypt

- Developed the frontend, backend, database structure as well as the flow of a website for a company.

Benya Systems
Computer Vision Software intern

June 2022 - Aug 2022
Cairo, Egypt

- Developed real-time backend for a smart attendance system. The backend connects a machine learning model that detects and recognized faces to the database and the front end of the system, sending all necessary data to the front end in real-time using mainly web sockets.
- Participated in developing a robotic car that used machine learning model to detect humans and follow the closest human in frame.
- Upgraded the car to run in 30FPS from 3FPS by using edge computation.
- Implemented a Traffic Sign Classification model and a model for identifying hand written numbers.

Ejada Systems
JSF Developer

August 2021 - September 2021
Cairo, Egypt

- Fixed a set of bugs as instructed by client.
- Developed a basic, no css, website that was linked to a dev database.

Orange
Python Data Engineer

June 2021 - August 2021
Cairo, Egypt

- Developed a python code using Pandas, that would take a given data frame, filter the data frame from any redundancies, as well divide the data frame into a set of tables depending on preexisting identifiers to link all the tables together.

TeraData
Python Developer

January 2021 - February 2021
Cairo, Egypt

- Developed code to fetch a specific line from an XML file and replace any variables in the given line with its definition and compile all the lines from all the files in a directory to a TXT file.
- Developed a code to fetch all the lines in a CSV file and append it to a TXT file, as well as set up a watchdog to catch if any file was added to the directory and append it to the TXT.

PROJECTS

- **Personalized Food Ordering Chatbot:** Produced a fully developed and containerized chatbot mobile application that relies on 5 machine learning models, including a finetuned LLM and a recommendation engine. Fall 2023
- **Personal Protection Equipment (PPE) detection and alert:** Practical Machine Deep Learning course - using python Pytorch Spring 2023
- **UDP Client-Server using load balancing and distributed elections:** Distributed Systems course - using Rust Fall 2022
- **ECG signal processing to detect Sinus Arrest:** Digital Signal Processing course - using python Fall 2022
- **Bank Network construction:** Computer Networks course - using Cisco Packet Tracer Fall 2022
- **Asynchronous TCP Socket Programming and Packet Forwarding:** Computer Networks course - using C Fall 2022
- **Web Scraping program & Mobile application:** Fundamentals of Database Systems course - using Python, SQL and React Native. Spring 2022
- **Digitalized lost and found app:** Mobile Applications Development course - using Java for android, Swift for iOS and node.js for the backend Winter 2022
- **Tomasulo's Algorithm for out-of-order execution Simulator:** Computer Architecture course - using C++ Fall 2021
- **Pipelined RISC-V Processor supporting all base forty instructions, compressed instructions and RV32IM:** Computer Architecture course - using Verilog Fall 2021
- **x86 Bootloader, virtual memory and page tables:** Computer Organization and Assembly Language Programming course - using C++ Fall 2021

- **Search Engine program, Compression and Decompression programs :** Analysis and Design of Algorithms course - using C++ Fall 2021
- **Water Vending Machine program, Digital Lock program, Digital Clock program:** Digital Design 1 course - using Verilog Spring 2021

EXTRACURRICULAR ACTIVITIES

Co-Chair, SU Technology committee, Student Union: Spring 2023

co-leading a team of 30 members and 3 general managers in 3 projects:

SU Website - Revamped, restructured and released the Student Union's website.

SU App - Released SU Packs feature, SU Cards feature and started a points system.

SU Backend - Documented APIs using Swagger, as well as cleaned and optimized some existing APIs.

General Manager, SU Backend, SU Technology committee, Student Union: Fall 2022

Coordinating 10 members to cater for the API needs of the app or the website:

API Migration - Instead of relying solely on Amazon AWS Lambda functions,

a server was bought and all APIs were migrated to the NodeJS and expressJS frameworks.

Development Server - Instead of pushing directly to production,

a development server was set up to test the APIs.

Member, SU App, SU Technology committee, Student Union: Fall 2021 - Spring 2022

Worked alongside two other developers to introduce a new, Uber like feature, to the Student Union app.

General Manager, Human Ressources, First Year program, Office of Student Life: Fall 2021

Leading 6 members to help cater for the human resources needs of the First Year program.

TECHNICAL SKILLS

Programming languages: C++, C, C#, Python, Swift, Java, JavaScript, Verilog, Rust, R

ML/AI: Tensorflow, PyTorch, openCV, Numpy, Pandas, Matplotlib

Cloud Services: Amazon AWS' RDS, Lambda Functions, LightSail & API Gateways and Digital Ocean's server droplets

Web Technologies: HTML, CSS, BootStrap, MaterialUI, ReactJS

Miscellaneous: MySQL, PostgreSQL, Git, Latex, React Native, Flutter, LLaMA

DevOps: Docker, Kubernetes, Jenkins

RELEVANT COURSEWORK

Computer Science: Frontend Development, Backend Development, Full Stack Development, Deep Learning, Data Structures and Algorithms, Databases, Operating Systems, Distributed Systems, Computer Networks

Mathematics: Linear Algebra, Discrete Maths, Probability and Statistics, Differential Equations, Stochastic Processes

LANGUAGES

Native: Arabic

Fluent: English