

EDUCATION

Giza, Egypt

Cairo University

September 2016 — July 2021

- B.Sc. in Computer Engineering.
- Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Operating Systems, Software Engineering, Computer Architecture, Computer Networks, Database Systems, Machine Intelligence, Big Data Analytics.

PROJECTS

- **project rev**: Researched, mapped out and led the architecture and development of a 5-module audio-interactive personalizable chatbot. [Python, PyTorch, Hugging Face, Flask, Natural Language Processing (NLP)]
- **Nabd**: Incorporated internationalization, GPS tracking, and designed most of the user interface (UI) scenes and forms, contributing to the app becoming a \$60,000 government award finalist. [JavaScript, React Native, Redux]
- **E7gzly API**: Created, designed and documented a RESTful API featuring 17 endpoints for a football matches ticket reservation web app. [Python, Django, Graph Database Systems]
- **Othello (Reversi)**: Created a basic Othello game implementation that supports two types of playing agents: a human or a general minimax alpha-beta pruning agent. [Python, Artificial Intelligence (AI)]
- **Doclense**: Contributed to the development of an OCR web app by implementing a text separation algorithm and creating a classifier model achieving 99% accuracy on a custom dataset. [Python, Image Processing, Neural Networks]
- **Database Tuning**: Reduced queries running time by an average of 60% by utilizing memory management, indexes tuning, and query execution plan optimization. [Database Systems, Microsoft SQL Server]
- **kabsa**: Built a compiler using Bison & Flex C++ interfaces that supports 8 language constructs, semantic and syntactic error detection and generates code for a hypothetical stack-based machine. [C++, Lex, Yacc, Compilers]
- **Battleships Game**: Developed the famous battleships guessing game, specifically the ships-placement mechanism and simulated scrolling chat using queues data structure and 8086 Assembly graphics mode. [8086 Assembly]
- **32-bit RISC Pipelined Processor**: Implemented a regex-based assembler and modelled the memory stage of a 5-stage 32-bit pipelined processor. [Python, VHDL]
- **Developed Dynamic Multilevel Feedback Queue Scheduling Algorithm with Aging Criteria for Starvation Mitigation**. [Research Paper]

WORK EXPERIENCE

Freelance Software Developer

May 2019 — Present

- Earned “Top Rated” status and sustained 100% Job Success and Client Recommendation scores on Upwork.
- Implemented a financial analysis system using Google Apps Script API for a large-scale content publisher. Extensively optimized the system to run as quickly as possible under Google Sheets limitations.

EXTRACURRICULAR ACTIVITIES AND COURSEWORK

- **Coursera Natural Language Processing Specialization**. [November 2020]
- **Udacity Deep Learning Nanodegree**. [September 2020]
- **CMP 2021 Conference Co-host**: Co-hosted and introduced teams in a 14-team conference.
- **1 Million Arab Coders Initiative Android Developer Track**. [April 2018]

TECHNICAL SKILLS

- **Programming Languages**: Python, C/C++, JavaScript, Java (familiar), SQL.
- **Frameworks**: PyTorch, Django, Flask, React Native, Hugging Face.
- **Tools**: Git & GitHub, Google Cloud Platform, Microsoft SQL Server, Visual Studio, VS Code, PyCharm.