MOHAMMAD KARIM ABO HOSA

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EDUCATION

Undergraduate Bachelor Degree of Computer Science

Beirut Arab University GPA: 3.3/4 2021 - 2024

TECHNICAL SKILLS

LANGUAGES: C/C++ | Java | Python | SQL | Dart | Assembly | Bash Shell script | JavaScript | PHP

SOFTWARE: Git | GitHub | Docker | VS Code | Vim | Gradle | VMWare | Virtual Box | SMSS | Azure

LINUX: Ubuntu | Fedora | Debian | Arch | 2+ years of daily use and development on Linux

COMPETITIVE PROGRAMMING

- LCPC - September 2023 (14th Place out of 60 teams, 6 problems solved)
- Google Devathon - November 25 2023 (3rd Place out of 30 teams, 4 problems solved)

Note: Team leader in both events

PROJECTS

Senior Project:

- A mobile app that calculates the optimal insulin dosage for type 1 diabetics, and a website for the Doctors to access their patient's information
- Flutter for front end | SQflite for local database | MS SQL for backend database hosted on Azure accessed through python API | Git and GitHub for version control | Agile methodology | Jira for scheduling
- Roles in the project:
  - Tested and debugged the backend functions, then connected them to the front end
  - Designed and implemented a reinforced learning model in dart that takes the patients' glucose level after taking the insulin dosage as feedback to optimize for future calculations by determining what foods are causing high blood sugar and increase the needed insulin for them
  - Added a logging framework for debugging
  - Introduced the team to Git and GitHub

Wordle Solver: https://github.com/TrueBat/wordle_ai

- Java console program that solves the NYT game Wordle
- Developed my own algorithm to calculate the value of each character based on how close it is to dividing the set of remaining words in to 2 equal parts
- Chose the word with the highest value based on the sum of the values of its characters
- Made a testing class to evaluate the accuracy and speed of the algorithm
- It reached 100% win rate and an average of 3.5 guesses
- solves all 2309 words in 5sec or 2 ms each

Chess Image analyzer: https://github.com/TrueBat/image-processing

- Python chessboard image recognition tool that identifies pieces and generates a link for analyzing the position on lichess.org
- Utilized OpenCV for template matching, PySimpleGUI for a user interface and web browser model to interact with the web

My Portfolio: https://truebat.github.io/portfolio/ (work in progress)

EXPERIENCE

- Installed various Linux distributions on multiple PC's and laptops
- Taught my colleagues how to install and use Linux