

Ammar Awad

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Experience

Software Development Engineer eJad *Cairo, Egypt* **03/2022 - Present**

- Optimized BMW's Symphony tool performance in large-scale projects by tuning JVM parameters, wisely choosing the garbage collector, and continuous refactoring, increasing throughput by **19%** using **Eclipse RCP**, **SWT**, **Jface**, and **Xtend**.
- Built a multi-threaded, simple-designed, enterprise code generator that automates the process of generating C files from XML files using **Java/J2EE** and Eclipse Modeling Framework (**EMF**), which boosted the development process time by **30%**.
- Implemented a robust VS Code extension for Symphony modeling language using **Xtext** and **language server protocol**.
- Improved the java-classes obfuscation rate by **34%** using **Proguard** to deceive the de-compilation process.
- Managed BMW's Symphony Infrastructure (CI/CD) using **Python**, **ZUUL**, **Ansible**, **Bazel**, and **Jenkins** in a Scrum workflow, resulting in a resilient workflow and a **15%** efficiency increase.
- Mentored over **4** senior students on extending the functionality of our code generator through their graduation project.

Member Technical Software Staff Robotech *Cairo, Egypt* **10/2019 - 04/2020**

- Led the control team to develop a reliable, latency-free, real-time control system for a mini-submarine, receiving recognition for design ideas and implementation.
- Developed a dashboard with various control functionalities using **C++** and **Qt** as a cross-platform application.
- Transferred the control system to **ROS**, which improved system latency to around **1 ms**.

Intern Software Engineer Innovation Hub *Cairo, Egypt* **07/2019 - 09/2019**

- Automated mapping of architecture's maquettes to a 3D grid layout by building a Maquettes Mapper GUI that reduced the average time needed to map a medium-sized project from 20 minutes down to 4 minutes using **Python** and **Qt**.
- Re-introduced the design of the physical interactive maquette board, which decreased the cost by **76%**.

Education

Bachelor of Engineering Ain Shams University *Cairo, Egypt* **09/2015 - 07/2020**

- Major in computer and systems engineering.

Skills

- Java | C++ | Python | TypeScript | Spring | Django | Qt | MySQL | MongoDB | Maven | REST API | Git | CI/CD | React | Bash
- Backend | Algorithms | Data Structures | OOP | Design Patterns | Unit Testing (JUnit) | Regression Testing | Agile | JIRA

Projects

- **Log4j2**: Made occasional contributions to Apache **Log4j**, which is an efficient logging API and backend for Java-based projects. (Java, Maven) **(05/2023)**
- **Equation Plotter**: Creator of a 2D mathematical equation plotter (C++, Qt) **(12/2021)**
- **Graduation Project**: Designed and built a generic deep-learning converter that translates the source code of Android apps to iOS apps' source code and vice versa using **NMT** (Python and Keras API) **(09/2020)**
- **PongPing**: Developed a table tennis scoring system by processing the match live video (Python and OpenCV) **(05/2020)**
- **ASU Racing Team Website**: Implemented website's authorization component with a social login feature using **Angular 6** and **TypeScript**. Provided a **RESTful API** using **Django** with relational databases (Angular, Django, SQL). **(10/2019)**
- **Memory Simulator**: Developed a GUI that simulates and visualizes memory allocation and deallocation; it supports different methods of allocation and deallocation Best fit, worst fit, and first fit (C++ and Qt). **(04/2019)**
- **CareHub**: created and put into use a healthcare system that lets patients access personal medical records, book appointments, and find the right health provider to get treatment (Django, MySQL, HTML, and CSS) **(02/2019)**

Publications

- A. Y. Baraka, et al., "Neural Machine Based Mobile Applications Code Translation," 2020 2nd Novel Intelligent and Leading Emerging Sciences Conference (NILES), 2020, pp. 302–307, doi:10.1109/NILES50944.2020.9257935.

Professional Development

- **Advanced Data Analysis Program**: Udacity **(12/2021)**
- **Object-Oriented Design**: University of Alberta **(06/2020)**
- **Deep Learning Specialization**: Deeplearning.ai **(12/2019)**