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# Mohamed Abdelrahman Aboelkassem

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## EDUCATION

Beni Suef, Egypt	Beni Suef University	Sep 2018 – July 2022
<ul style="list-style-type: none"><li>• <b>Major:</b> B.Sc. in Computer Science, Faculty of Computers &amp; Artificial Intelligence.</li><li>• <b>GPA:</b> 3.30.</li><li>• <b>Graduation Project:</b> <a href="#">ASAR</a> (Arabic Manuscript Analysis and Recognition system). An intelligent system for digitizing historical Arabic manuscripts.<ul style="list-style-type: none"><li>- Implemented word spotting and pattern recognition algorithms to convert complex Arabic text images into digital text.</li><li>- Created a <a href="#">web application</a> using Flask framework to provide a user-friendly interface for accessing ASAR system.</li><li>- Led the team in the research and development of ASAR system.</li></ul></li></ul>		

## PROFESSIONAL WORK EXPERIENCE

Software Engineer	SilverKey Technologies	Jul 2021 – Present
<ul style="list-style-type: none"><li>• Taly BNPL (Buy Now Pay Later)<ul style="list-style-type: none"><li>- Initiated the project architecture by applying the best practices in .NET Core with backend for frontend (BFF) pattern.</li><li>- Developed and designed web portal features including plan management, onboarding flow, maker/checker review, action logs, auto-approval, in-system notifications, background services, and others.</li><li>- Implemented secure and resilient APIs (Internal and Integration) for onboarding and payments of external merchant.</li><li>- Design the system to be multi-tenant enabling banks serve their nested corporate, aggregators, and merchants.</li><li>- Constructed Feature level and Data Scope authorization flow in the system using Keycloak (Identity provider).</li><li>- Document the database design and integration API Guide.</li></ul></li><li>• Taly Meeza Wallet<ul style="list-style-type: none"><li>- Developed a fully REST APIs based on service-oriented architecture (SOA) for the wallet mobile app.</li><li>- Implemented the SOAP protocol of <b>Meeza</b> digital network to handle wallet processing in Egypt, achieving certification from <a href="#">Egyptian Bank</a>.</li><li>- Reduced database workload by implementing distributed caching, leading to improved overall performance.</li><li>- Ensured regulatory compliance from the <a href="#">Central Bank of Egypt (CBE)</a> by meeting their security, payment standards and requirements.</li></ul></li><li>• Taly Installment<ul style="list-style-type: none"><li>- Developed file mapping and processing functionality to synchronize Bank installment plans and POS transactions.</li><li>- Implemented SFTP and FTPS connections export and importing files to/from third parties.</li><li>- Created a file tracking feature to log every event associated with generated files.</li></ul></li><li>• Education Quality Monitoring System (QMS)<ul style="list-style-type: none"><li>- Delivered the <a href="#">next phase</a> to the Ministry of Education and Technical Education (<b>MoETE</b>) in partnership with <a href="#">GIZ</a>.</li><li>- Developed many features in the web portal including school forums, assessment and statistics reports, notifications, and surveys.</li><li>- Implemented the backend REST APIs for school and administration tablets.</li><li>- Documented the system user manual and system architecture for clarity and user experience.</li></ul></li><li>• <a href="#">Labour Market Access Project</a><ul style="list-style-type: none"><li>- Created Complex queries for reporting dashboard for <a href="#">LMAP Admin</a> portal to serve many employment centers and job seekers in Egypt with partnership with <a href="#">GIZ</a>.</li><li>- Executed data migration of the database from the legacy software schema to fit the new software schema.</li><li>- Developed other features like sharing knowledge base, complaints, and company subscriptions.</li><li>- Implemented global role authorization and user specific authorization to be manageable in admin portal.</li></ul></li></ul> <p><b>Tech Stack:</b> .NET Core 8, OAuth2 with Keycloak, VueJs, LLBLGen, Blazor WASM and Server Side, CQRS, xUnit, gRPC, SQL Server, PostgreSQL, Docker, Open Telemetry (Jaeger), and Elastic Stack (ELK).</p>		

## OPEN SOURCE CONTRIBUTIONS

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### EMVQR.NET

- Build and maintain [Nuget Package](#) for generating and parsing QR Codes for digital payments in .NET based on the [EMV\(R\) QR Code Specification Standards](#).
- Repo Link: <https://github.com/aboelkassem/EMVQR.NET>

### SurveyJS

- Add Arabic Language Support on both libraries [survey-creator](#) and [survey-analytics](#).

## PERSONAL PROJECTS

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### Listify

<https://github.com/aboelkassem/Listify>

Aug 2020 – Oct 2020

- Build a real-time web application enabling users to share their preferred music/videos with an online community.
- Developed streaming features and a currency system for an interactive platform experience.
- Integrated Youtube API and Spotify API to facilitate the request and playback songs and playlists within user rooms.
- Added payment integration with PayPal gateway for financial transactions and profanity filter with PurgoMalum API.
- Utilized the IdentityServer4 framework to enable single sign-on (SSO) and diverse user authentication methods.
- Tools used: ASP.NET Core 3.1, Angular 10, SignalR, EF Core, IdentityServer4, SQL Server, AutoMapper.

## SKILLS

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- **Programming Language** C#, Go Lang, Python, TypeScript, JavaScript, HTML, CSS
- **Back-End frameworks**: ASP.NET Core, Flask, SignalR.
- **Front-End frameworks**: Vue, Angular, Blazor Web Assembly and Server Side, Bootstrap, jQuery.
- **Databases**: Microsoft SQL Server, PostgreSQL, MySQL.
- **ORMs**: LLBLGen, Entity Framework Core.
- **Technologies**: Docker, Elastic Search (ELK stack), Open Telemetry with Jaeger, and OAuth2 with Keycloak and Identity Server.
- **Unit Testing**: xUnit.
- **General Concepts**: Algorithms, Data Structure, Distributed Systems. Microservices, Service Oriented Architecture (SOA), CQRS Pattern, Solid Principles, Design Patterns, Database and System Design, Web Services, OWASP Web Security, Linux, Networking, and Agile Methodology.
- **Service Communication Protocols**: SOAP, gRPC, and RESTful APIs.
- **Other Skills**: Good technical writing and communication skills.

## LANGUAGES

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- Arabic (Native)
- English (Excellent)