

Zaynab Marhaba

Computer and Communications Engineer

Detail-oriented Computer Engineer with hands-on experience in Machine Learning, Computer Vision, and Data Analytics.

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Education

2025 Computer and Telecommunications Engineering - Lebanese University Faculty of Engineering Branch I.

Experience

2024 Data Analyst at Khwarizme

- Received a training focused on Data Analysis and Business Intelligence.
- Completed the Power BI Data Analyst specialization (Coursera – Google), with a preparation for the PL-300 certification.
- Built interactive dashboards using Power Query and DAX to clean, model, and visualize the data.
- Received interdisciplinary training in Business Intelligence, economics, finance, and business strategy.

2023 Fullstack Web Developer at Codendot

- Developed fully dynamic websites using Yii2 framework
- Maintained and developed RESTful APIs .

Projects

2025 OralSegMentor: Multi-Class Image Segmentation – Final Year Project

- Developed a full pipeline for segmenting 58 oral anatomical structures from histology images: annotation, augmentation, model training and evaluation.
- Manually annotated the dataset using Roboflow and applied augmentations with Albumentations and Detectron2.
- Trained multiple CNN models, including U-Net and DeepLabV3+, using TensorFlow, Keras and segmentation_models library.
- Utilized additional tools such as **OpenCV**, **NumPy**, **Matplotlib**, and **scikit-learn** for preprocessing, visualization, and data handling.
- Assessed model performance using standard metrics: IoU, Dice Coefficient, Pixel Accuracy, and mAP.

2024 Java RMI chatting app

- Used Java RMI to enable client communication, allowing them to chat and create groups for discussions.
- Designed and implemented server-client architecture.

2024 Car Price Prediction Machine Learning Project

- Implemented neural networks, linear regression, decision trees and random forest for predicting car prices.
- Evaluated models performance using mean squared error (MSE) and R-squared score (R^2).

2023 Solar panel appointment booking web app

- Led backend development for a full stack web application using Django.
- Managed tasks and project progress within a team of four using Trello and GitHub.

Skills

- | | | | |
|----------------------|-------|-------|--------------------|
| • Microsoft Power BI | • C# | • SQL | • Java |
| • Python | • OOP | • PHP | • Django framework |

Trainings and Certifications

2023 Tashgheel 2 Program – LAsEr association

- Completed an intensive training focused on web development using Django and machine learning techniques.

2021 IEEEExtreme 15.0 programming competition

- Solved complex coding problems under time pressure for 24h in a team of three.

Volunteering

2023 Logistics Support for Syrian Earthquake Relief - Tripoli Entrepreneurs Club (TEC) and the Lebanese Red Cross.

2022 Google developer student club (GDSC) core team member - Lebanese University Faculty of Engineering.