About

Junior Full-Stack Engineer with 3 years of educational experience and some freelance projects developing web applications and full-stack solutions using technologies such as Flask, React.js, and Django. Demonstrates strong skills in integrating APIs, machine learning, and data visualization, with a keen eye for detail and a passion for innovative solutions. Eager to leverage technical expertise and collaborative mindset to drive impactful projects and continuous learning.

Education

Dec 2024
MSc Computer Science
University College Dublin at Dublin

Feb 2021
Mechatronics Engineering
Eastern Mediterranean University at Famagusta

Experience

May 2024 - Aug 2024
Nibbler Project
Dublin

- **Developed a full-stack application** using React.js for the frontend and Django with Django REST Framework for the backend, providing a robust platform for restaurant discovery and recommendations.
- **Utilized PostgreSQL for database management**, designing a relational schema to efficiently store and query restaurant data, user profiles, and reviews, ensuring data integrity and optimized performance.
- **Implemented frontend features with React.js**, including interactive restaurant cards with flip animations, state management with Redux, and seamless navigation with React Router.
- **Integrated map functionalities using** @visgl/react-google-maps, enabling advanced map features such as markers, geojson layers for visualizing busyness, and custom map styles tailored to the application's design.
- **Built and exposed RESTful APIs with Django REST Framework**, handling data retrieval, user authentication (via JWT), and interactions with the PostgreSQL database.
- **Developed a comprehensive search and filtering system** with React and Django backend support, allowing users to search for restaurants based on criteria like price, cuisine, and location, with efficient pagination for loading results.
- **Incorporated weather data and street view integration** using external APIs to provide real-time weather conditions and enhanced navigation features within the application.
- **Implemented sentiment analysis and machine learning models** for personalized recommendations and busyness predictions, integrating Python-based ML models with the Django backend for data-driven insights.

Feb 2024 - May 2024
Dublin Bike - YourBike
Dublin

- Developed a web application using Flask for backend development, incorporating RESTful API endpoints to manage and serve data on bike stations, leveraging libraries like Flask-RESTful and Flask-SQLAlchemy for efficient data handling and ORM support.
- Integrated multiple external APIs, including Google Maps API for geolocation and visualization, and weather APIs for real-time weather updates, using Python libraries such as requests and Flask-Caching for optimized API interactions and data caching.
- Implemented a machine learning model for bike availability prediction, utilizing scikit-learn and pandas to process and analyze continually updated CSV data, enabling predictive analytics for future bike availability and improving user experience.
- Designed and developed interactive maps and visualizations using JavaScript libraries like Leaflet or Google Maps JavaScript API, combined with Flask to dynamically render and update bike station data and availability in real time.
- Built a secure user authentication system with Flask-Login and Flask-WTF, incorporating features for user registration, login, and session management to ensure secure access to personalized information.

Aug 2023 - Oct 2023
Company Internal DB
Dublin

- Designed and implemented comprehensive MySQL and PostgreSQL database schema for hiring processes.
- Developed normalized tables and relationships, ensuring data integrity and efficient join operations.
- Created and optimized SQL queries for data retrieval, updates, and reporting, enhancing performance.
- Generated and maintained ER diagrams to visualize database structure and communicate design decisions.
- Applied best practices in indexing, query optimization, and transactional management for large data volumes.
- Streamlined data retrieval and reporting processes through strategic SQL query development, significantly enhancing overall system performance and user experience.

Emad Nazzal

Junior Software Engineer

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Skills

Python
Experienced

DSA
Skillful

AWS
Skillful

Java
Beginner

HubSpot CRM
Skillful

HTML
Expert

CSS
Experienced

BOOTSTRAP
Skillful

NODEJS
Skillful

JAVASCRIPT
Experienced

EXPRESS
Skillful

MONGODB
Skillful

MONGOOSE

MVC architecture
Skillful

Reports writing

Attention to Details

Time management

Leadership

Teamwork

Database Modelling

Engineering

Electrical

Git
Skillful

Feb 2024 - May 2024

CDC COVID-19 analysis

Dublin

- **Performed data preprocessing and cleaning** on a subset of 100 million-row CDC COVID-19 dataset, including handling missing values, outlier detection, and data normalization to ensure data quality for analysis.
- **Applied the CRISP-DM methodology** to guide the entire data analysis process, including business understanding, data understanding, data preparation, modeling, evaluation, and deployment.
- **Conducted exploratory data analysis (EDA)** using Python libraries such as Pandas, NumPy, and Matplotlib to uncover patterns, trends, and insights through visualizations and statistical summaries.
- **Implemented data transformation and feature engineering** techniques to prepare the dataset for machine learning, including encoding categorical variables, scaling features, and creating new derived variables.
- **Developed and evaluated multiple machine learning models** to predict COVID-19 outcomes, including logistic regression, linear regression, and random forest, using scikit-learn for model training and evaluation.
- **Compared model performance** using metrics such as accuracy, precision, recall, F1 score, and ROC-AUC to determine the most effective model for the given dataset.
- **Utilized cross-validation and hyperparameter tuning** to optimize model performance and avoid overfitting, ensuring robust and generalizable results.
- **Presented findings and insights** through detailed visualizations and reports, using tools like Jupyter Notebooks, Seaborn, and Tableau to effectively communicate the results and strategic implications of the analysis.
- Spearheaded digital transformation initiatives, optimizing workflows and driving efficiency gains across departments

Mar 2022 - Aug 2022

Natours Travel Advisor Project

Remote

- Designed scalable backend architecture to manage increasing traffic and data load efficiently.
- Implemented JWT-based authentication and role-based access control for secure access.
- Developed mobile-first, responsive UI for seamless user experience across devices.
- Created a RESTful API for user data, bookings, and tour management with proper versioning.
- Applied security best practices including data encryption, XSS and CSRF protection.

Sep 2021 - Sep 2022

Junior Full-Stack Engineer

www.github.com/EmadNazzal at Remote

- Developed HTML/CSS designs, enhancing UI/UX for multiple projects.
- Implemented JavaScript functionalities, including quiz and CRUD apps, improving interactivity.
- Designed personal portfolio, showcasing full-stack development skills.
- Currently building a travel agency website, applying full-stack development from backend to frontend.
- Developed responsive HTML/CSS designs and interactive JS functionalities, enhancing user experience across multiple projects including quiz apps and CRUD applications.
- Spearheaded development of a comprehensive travel agency website, implementing full-stack methodologies to create a robust, user-centric platform.
- Crafted and refined personal portfolio designs, showcasing meticulous attention to detail and a keen eye for user interface aesthetics.

Jan 2022 - Sep 2024

+10 projects

Dublin

- **Machine Learning:** Various projects involving data analysis, predictive modeling, and machine learning techniques.
- **Game Development:** Developed a full game using GDX and another game in Python, leveraging Object-Oriented Programming (OOP) principles.
- **Information Security:** Conducted analysis and assessments of information security systems.
- **Web Development:** Built multiple projects using HTML, CSS, and JavaScript, showcasing front-end development skills.
- **Distributed Systems:** Worked on a Java-based distributed systems project, involving complex backend development and system architecture.

Courses

Feb 2021 - May 2024

Python

Udemy

Feb 2024 - May 2024

Data Analytics

UCD

Jan 2022 - Dec 2022

ReactJS

Udemy

Jun 2022 - Dec 2023

Web Scrapping with Python

Docs

Jun 2022 - May 2023

AWS Solution Architect Associate (awaiting exam)

Udemy

Sep 2023 - Dec 2024

Java 17 and SQL

Udemy

Feb 2024 - Sep 2024

Flask and Django

Feb 2022 - Jul 2023

MERN stack

Udemy

Sep 2024 - Dec 2024

Distributed Systems with Java

UCD

Sep 2024 - Dec 2024

Cloud Computing

Sep 2023 - Dec 2024

OOP in Python and Java

UCD

Nov 2021 - Jun 2022

NODEJS USING EXPRESS

Sep 2024 - Dec 2024

Information Security

UCD

Work ethics

Data visualization
Skillful

RESTful services

UI/UX design
Skillful

Agile methodologies
Skillful

Security protocols
Beginner

Cloud Computing

System Design
Beginner

Languages

English
Native

Arabic
Native

Turkish
Highly proficient

Hebrew
Novice

Interests

Blockchain, Web3.js, ML, AI, Docker, Cloud Computing, AWS solutions architect, .NET framework, micro-services, Kubernetes, React.js, Design Patterns, Mobile Development, Network Security