

Muhanad Tuameh

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I am not just an AI user, I am an ML builder. I deal with large data, train on different model architectures, experiment and observe for better results and efficiency. I enjoy visualizing my deliveries, simplifying my results and presenting to non-technical stakeholders.

Areas of Expertise

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| <ul style="list-style-type: none">Machine learningMachine VisionLarge Language Models (LLM)Data Science | <ul style="list-style-type: none">Graph Neural NetworksPythonNextflowDocker | <ul style="list-style-type: none">PytorchScikit-learnMLflowSQL |
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Work Experience

Informatics and Digital Associate @ Wellcome Sanger Institute

Cambridge, UK

Sep/2024 – Present

As part of the Tech Talent Scheme, I have worked across different departments to develop a broad range of technical and interpersonal skills:

ML Engineering @ High Performance Algorithms Group:

June/2025 – Present

Focused on developing ML solutions to support genome curation, in close collaboration with curators and engineering teams from Vertebrate Genome Project (VGP).

- Worked on **Hi-C curation** by training a **graph neural network (GNN)** on Hi-C image data to cluster the genomic fragments based on the chromosome they belong to. This required data processing and preparation, model training and feature engineering.
- Built and refined models through iterative experimentation, including **tracking experiments**, **evaluating performance**, and adjusting model/data accordingly.
- Delivered a model, with 0.63 f1 score on validation dataset to the curation team and worked with a PretextView developer to integrate it to the tool.
- Coordinated closely with curators from Darwin Tree of Life and VGP, bioinformaticians and AI engineers from Rockefeller University DSP, and the Google AI genomics team to align model outputs with curation workflows, regularly presenting progress to stakeholders to gather feedback and guide next steps.

Bioinformatics @ Parasites and Microbes Informatics :

Sep/2024 – June/2025

Focused on developing and maintaining pipelines, as well as providing operational support to assist the department's scientific groups.

- Developed an interactive tool for Bryant Group to identify and analyze bacterial colonies on human tissues using spatial transcriptomic data generated by 10x Xenium Analyzer. The tool was used to support studies investigating chronic Pseudomonas aeruginosa lung infections.
- Worked on processing Treponema Pallidum images to **segment** the bacteria from the background and
- Provided operational support, including **software deployment** and technical troubleshooting.
- Worked on developing **Nextflow pipeline** to benchmark DNA assemblies based on various metrics and **bioinformatics analysis**. This benchmark was used to identify a better assembly tool to replace a Legacy one.

Freelance Data Science Tutor @ Preply & @ LPC

Remote

Feb/2024 – Jan/2025

- Delivered 1:1 tutoring in **Data Science, Statistics, and Python** to high school, university, and adult learners.
- Completed **134+ hours** of tutoring/training; maintained **5/5 average learner rating** on Preply.
- Built hands-on exercises using real-world datasets to improve learner engagement and practical skills.

Artificial Intelligence Intern @ INOSENS

Istanbul, Turkey

Apr/2023 – Jul/2023

- Focused on virtual reality integration in physical rehabilitation, conducting extensive research and using **AI and machine learning** for motion analysis solutions.

Data Analyst Intern @ Wolves Interactive

Istanbul, Turkey

Jul/2021 – Sep/2021

- Worked on optimized SQL queries for fast and efficient data retrieval from a large MySQL database.

Education

2019 – 2023 **Yildiz Technical University** - B.S. in Computer Engineering

Istanbul, Turkey

Relevant Coursework:

- **Natural Language Processing:** Gained skills in developing NLP models using different techniques and algorithms.
- **Artificial Intelligence:** Learned how to determine whether a problem is suitable for AI methods, choose an appropriate AI method, and implement it to solve a problem.
- **Database Systems:** Gained skills in **SQL** and in designing and implementing database systems.

2022 – 2022 **University of Eastern Finland** - Erasmus Scholarship

Kuopio, Finland

Relevant Coursework:

- **Data Mining:** Gained skills in developing data mining models using different techniques and how to evaluate and interpret the results of data mining models.
- **Research Methods in Computer Science:** Gained skills in developing research questions, designing experiments, collecting and analyzing data, and presenting research findings.

Voluntary

NLP and ML Course #

- Co-organized a 12-lecture online course for students from Syria and Gaza, coordinating with organizations to reach students.
- Prepared and delivered two lectures and mentored two students on their course projects.
- Expanded access to technical education for underserved students, reaching ~200 registrants; 19 completed all coursework and gained detailed knowledge of key **NLP** and **ML** concepts.

Accomplishments

Tech Talent Scheme Rep

Wellcome Sanger Institute (December 2025-June 2026)

- Represented TTS members by gathering their requests and concerns, communicating them to management, and helping ensure issues were addressed clearly and promptly.
- Supported transparency during organizational restructuring by organizing a Q&A meeting with management, giving members a direct forum to ask questions and receive updates.
- Strengthened member support and engagement through regular check-ins, coordination with HR and training teams, and organizing a social event.

Embark Fellow

Embark Project (March 2023-August 2023)

- Successfully completed Embark Academy training on business skills in partnership with the private sector in Turkey.
- With a group of fellows, I tackled a challenge of prominent companies in Turkey within the ideation challenge.
- Improved my communication skills by providing mentorship to a business leader within the reverse mentorship program.

Projects

Segmentation of Tumor Region in Histopathology Images #

Implemented cutting-edge deep learning methods for accurate tumor segmentation in large histopathology images, contributing to potential advancements in early cancer diagnosis and treatment planning.

Recognition and Repetition Counting of Physical Exercises #

Developed a machine learning project using pose estimation algorithms to recognize and count repetitions of physical exercises.

Question Answering System #

Developed an NLP project that uses deep learning algorithms to predict correct answers to user's questions. The developed model also generates three false answers alongside the true answer.

Certificates

Deep Learning Specialization (Coursera) · **End-to-End AI Engineering** (Maven) · **McKinsey Forward Program** (McKinsey & Company) · **ITIL Foundation in IT Service Management** (PeopleCert) · **Professional Scrum Master I** (Scrum) · **Professional Scrum Product Owner I** (Scrum)

Languages

Arabic - Native, **English** - Full professional proficiency, **Turkish** - Full professional proficiency