Dhiyaa Al Jorf

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Education

Eidgenössische Technische Hochschule (ETH) Zürich, Switzerland Sep. 2025 – Jun. 2027
Master of Science in Computer Science *GPA: 5.54/6.0*

- Machine Intelligence Major; Theoretical Computer Science Minor

New York University Abu Dhabi (NYUAD), Abu Dhabi, UAE Aug. 2021 – May 2025
Bachelor of Science in Computer Engineering, ***summa cum laude*** *(top 5%)* *GPA: 4.0/4.0*

- Studies included two semesters abroad in New York, a short-term stay at NYU Paris, & a seminar in Greece

Publications & Presentations

Published & Accepted

D. Al Jorf et al., four poster presentations on the utility of biological priors for multi-omic synthetic data generation. *ESMO AI & Digital Oncology Congress 2026*

D. Al Jorf, G. Ghosheh, "Pathway-guided Multi-omic AI Reconstructs Missing RNA and DNA Methylation Profiles Across 34 Cancer Types." ePoster, *ESMO Congress 2026*

F. Darwish*, **D. Al Jorf***, E. Tyacke, C. Armanini, F. E. Shamout, "Leveraging Agonistic-Antagonistic Coactivation in Single-Grid HDsEMG for Hand Gesture Recognition." *IEEE EMBC 2026*

D. Al Jorf*, F. Darwish*, C. Armanini, "Enhancing the Efficiency of Hand Gesture Classification by Harnessing Muscle Synergies." Poster, *IEEE EMBC 2025*

L. J. Lechuga Lopez, S. Elsharief, **D. Al Jorf***, F. Darwish*, C. Ma, F. E. Shamout, "Uncertainty Quantification for Machine Learning in Healthcare: A Survey." *AHLI CHIL 2025*

Under Review

Y. Li, **D. Al Jorf**, A. Ighissou, A. Scheel-Sailer, J. Pannek, R. Riener, & D. Paez-Granados, "Causal Graph Fusion Across Incomplete Cohorts: Predicting Secondary Complications after Spinal Cord Injury."

S. Elsharief, L. J. Lechuga Lopez, F. Darwish*, **D. Al Jorf***, M. A. Andargei, A. Subanya, C. Ma, F. E. Shamout, "Modular Multimodal Alignment using Time-Series EHR Data for Enhancing Medical Image Classification."

M. Mohammad, A. Alabyad, Burjeel Cancer Institute Research Team, G. Ghosheh, M. Ghosheh, B. Mansoor, **D. Al Jorf**, "Synthetic Data and GenAI in Oncology: A Bibliometric Analysis of 5,687 Publications."

* These authors contributed equally

Research Experience

NLP Lab | *EPFL* × **Data Analytics Lab** | *ETH* Jun. 2026 – Present
Summer@EPFL Research Intern, then Research in Computer Science project *Lausanne & Zürich, Switzerland*

- Leading a project on **causal estimation of generalization profiles** in language models, extending a difference-in-differences estimator of memorization profiles.
- Investigating how training on a sample affects its **lexical and semantic neighborhoods**, adapting the estimator based on an **analysis of the training objective** and validating it on **controlled toy tasks**.

Nexomic Feb. 2026 – Present
ML Research Engineer *(Remote) Dublin, Ireland*

- Developing **pathway-structured generative models** for multi-omic cancer data, enabling reconstruction of missing modalities (RNA, DNA methylation) and consistent **cross-modality interventions** on cancer pathways.
- Investigated when curated **biological priors** add information beyond regularization.
- Built **internal tools for synthetic data generation** used across the team.

Spinal Cord Injury & Artificial Intelligence Lab | *ETH* Dec. 2025 – Jun. 2026
Semester Project *Zürich, Switzerland*

- Led a project on **steering TabPFN with partial expert causal graphs** via soft attention masking, improving performance by up to 1.5× without retraining and staying robust to incorrect priors.
- Contributed to a **causal graph fusion** method for incomplete spinal cord injury cohorts.

Clinical AI Lab | *NYUAD* Aug. 2024 – Jan. 2026
Research Assistant, funded by CAIR *(Hybrid) Abu Dhabi, UAE*

- Benchmarked **medical vision-language models (VLMs)** on chest X-ray tasks.
- Screened and extracted 70+ papers in *Covidence* for a **survey of uncertainty quantification** for ML in healthcare (AHLI CHIL 2025).
- Used coactivations & magnitude-squared coherence to analyze **muscle synergies in EMG data** for gesture recognition (IEEE EMBC 2025, 2026).

Teaching Experience

MAS in Artificial Intelligence and Digital Technology | *ETH* Sep. 2025 – Jun. 2026
Teaching Assistant, AI Project course (28 students) *Zürich, Switzerland*

- Helped design and teach the course's first run; responsible for the **compute decisions** for all student projects.
- Co-designed the course's **demonstration project** and one student project; led full-cohort sessions and advised two teams through the semester.

Oxford Centre for Artificial Intelligence May 2025 – Sep. 2025
Tutor, Executive AI Programmes (79 students in Dubai) *Oxford, UK (Remote) & Dubai, UAE*

- Co-developed curriculum and content for the **Kellogg Korean Government Officials AI Programme** at *Kellogg College, University of Oxford*.
- Created interactive course materials for the **Chief AI Officers Program 2025** with the **UAE AI Office**.
- Taught in-person sessions in the **Artificial Intelligence Program 2025** at the *University of Birmingham Dubai*, and mentored half of the **capstone projects**.

New York University Abu Dhabi Jan. 2025 – Mar. 2025
Teaching Assistant, Object-Oriented Programming (15 students) *Abu Dhabi, UAE*

- Co-led weekly lab sessions and graded assignments for the 7-week course.

Afghanistan Female Student Outreach (AFSO) Sep. 2024 – Apr. 2025
Teaching Assistant, Precalculus & Calculus (∼10 students each) *Remote*

- Taught weekly recitations and graded exams across two semesters.

Awards & Honors

Summer@EPFL Fellowship | *EPFL* Summer 2026
Competitive research fellowship funding a 3-month internship at 1,800 CHF/month.

Post-Graduation Practical Training Program (PPTP) Funding | *NYUAD* Summer 2025
Research funding of $3,200 USD supporting post-graduation research at the Clinical AI Lab.

2nd in Mubadala's Higher Education Student Competition | *Autonomous Track* Apr. 2025
20,000 AED team prize; built the synthetic dataset and detection models for an autonomous trash-collecting robot.

eBrain Lab LLM Fine-Tuning Competition | *First Place* Sep. 2024
1st place team in the LLM Fine-tuning competition scored on model size & performance on a medical MCQA task.

IEEEXtreme 16.0 & 17.0 Competitions | *Top 10% in the Middle East* Oct. 2022 & Oct. 2023
4th & 3rd place teams in the UAE in 2022 & 2023 respectively.

Dr. Gil Moore Award for Innovation | *Spaceport America Cup 2023* Jun. 2023
2nd/158 teams, Runner-Up Award for innovative mechanical design at the *Spaceport America Cup 2023*.

Summer Research Funding | *NYUAD* Summer 2022
Research grant of $4,000 USD for undergraduate summer research.

Technical Skills

Programming Languages: Python, C/C++, Java, C#, JavaScript, MATLAB, Bash
ML Libraries: PyTorch (Lightning), JAX, TensorFlow, HuggingFace, scikit-learn, XGBoost, OpenCV, causal-learn
Infrastructure: Linux, HPC (SLURM), Docker, Singularity, Conda, Git, GitHub Actions, Weights & Biases
Other: LaTeX, Unity, Blender/BlenderProc, React, Next.js, Node.js, MongoDB