Ahmad Abdel-Qader

Senior ML Engineer

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PROFESSIONAL SUMMARY

Senior ML Engineer and ML Team Lead with experience building production-grade AI systems for medical imaging, scalable inference infrastructure, and cloud-native MLOps. Skilled in deep learning, computer vision, PyTorch, Kubernetes, and AWS/GCP, with a strong track record of translating complex ML models into reliable, clinically aligned products. Experienced in leading cross-functional engineering teams, deploying regulated AI solutions, and delivering high-performance systems from research through production.

WORK EXPERIENCE

ML Team Lead
May 2025 – Present

Synthesis Health, Vancouver, Canada

Led a cross-functional team of 7 ML engineers, DevOps, and full stack developer to deliver end-to-end radiography AI products.

- Architected scalable inference infrastructure on Kubernetes to manage production AI deployments, ensuring high-availability and low-latency performance.
- Led cross-functional engineering teams, driving best practices in code reviews and reproducible applied research to deliver robust AI solutions.

Senior ML Scientist
Jan 2025 – May 2025

Synthesis Health, Vancouver, Canada

Focus on complex technical problem-solving and system design.

- Developed and optimized complex deep learning algorithms for high-scale environments, translating applied research concepts into production-ready software features.
- Orchestrated the deployment of large-scale AI models across multi-cloud environments (AWS/GCP), utilizing Python for seamless system integration.
- Enforced rigorous testing, monitoring, and compliance standards for AI systems, adhering to regulatory requirements and Responsible AI principles.

ML Scientist
Aug 2022 – Jan 2025

Synthesis Health, Vancouver, Canada

Managed end-to-end ML initiatives for radiology products including CT nodule detection and chest X-ray abnormality detection.

- Engineered high-performance AI models achieving 96% sensitivity, utilizing rigorous statistical analysis to measure and validate model outputs.
- Integrated deep learning solutions into production environments following industry best practices for security, compliance, and clinical validation.
- Optimized MLOps pipelines and server-side orchestration to facilitate the efficient lifecycle management and monitoring of applied AI models.

Machine Learning Intern
May 2022 – Aug 2022

Synthesis Health, Vancouver, Canada

Contributed to deep learning model integration, quality improvements, and deployment practices.

- Improved classification system accuracy by 10% through the integration of state-of-the-art backbones into existing software codebases.
- Contributed to the development and orchestration of API-driven AI services within a fast-paced software engineering environment.
- Automated the containerization and deployment of ML models within Kubernetes clusters to ensure scalable and reliable cloud inference.

Student Graduate Researcher
Jan 2022 – Apr 2023

The University of British Columbia, Canada

Research in information theory and machine learning for wireless communication.

- Researched and applied machine learning techniques to optimize complex communication systems and evaluate model performance metrics.
- Authored research on applied AI and statistical models, translating theoretical concepts into documented performance improvements.
- Leveraged information theory and machine learning frameworks to design scalable solutions for real-world technical challenges.

Digital ASIC Verification Team Leader
Jun 2021 – Dec 2021

Golden Electronics, Jordan

Built and led an ASIC functional verification team and improved verification infrastructure.

- Led and mentored a technical team to accelerate project delivery, ensuring high-quality standards in software system verification.
- Developed and adjusted complex testing frameworks to validate system performance and adherence to standard protocols.

Digital ASIC Design Engineer
Jul 2020 – May 2021

Golden Electronics, Jordan

Full-chip implementation of digital and mixed-signal chips from RTL to GDSII.

- Engineered complex digital systems and architectures using rigorous software engineering methodologies and deep sub-micron technologies.

Researcher
Jan 2020 – Apr 2021

Koc University, Istanbul, Turkey

Led GPS-denied indoor positioning research combining activity recognition and pedestrian dead reckoning.

- Led the development of applied deep learning systems for activity recognition, utilizing LSTM architectures for complex sequence modeling.
- Achieved 95+% accuracy in classification using neural networks, evaluating model robustness and alignment with business objectives.
- Designed efficient AI algorithms for mobile platforms, addressing sensor noise through advanced filtering and optimization techniques.

Internship - Research Assistant
Jun 2019 – Aug 2019

Koc University, Istanbul, Turkey

Developed an IMU-based navigation system and contributed to smartwatch prototype hardware design.

- Developed navigation systems by integrating sensor data with software-based tracking algorithms and inertial measurement units.
- Prototyped hardware-software integrations to facilitate data collection and real-time system monitoring.

EDUCATION

Master of Applied Science in Electrical and Computer Engineering
Aug 2023

The University of British Columbia

GPA: 4.33/4.33

Bachelor in Electrical and Computer Engineering
Jun 2020

The University of Jordan

GPA: 3.68 (top 3%)

SKILLS

Programming Languages: Python • C++ • MATLAB

Technical: Machine Learning • Deep Learning • Generative AI • Cloud Computing • AWS • GCP • Applied Research • Data Analysis • Simulation • Debugging • Linux • Computer Vision

Tools & Software: PyTorch • TensorFlow • Kubernetes • Git • GitHub

PUBLICATIONS

- **Variational Patch Gating for Training-Free Few-Shot Classification** 2026
  ECCV
- **MoE^2: A Mixture-of-Mixtures of Experts for Ensemble-Free Domain Generalization** 2026
  AAAI-26 (Oral)

- **Mutli-Level Autoencoder: Deep Learning Based Channel Coding and Modulation** 2025
  2025 International Wireless Communications and Mobile Computing (IWCMC)
- **Binary Decomposition and Transmission Schemes for The Optical Intensity Multiple Access Channel** 2023
  UBC
- **Coding for the Gaussian Channel in the Finite Blocklength Regime Using a CNN-Autoencoder** 2023
  IEEE BlackSeaCom
- **Binary Modelling and Capacity-Approaching Coding for the IM/DD Channel** 2023
  IEEE Transactions on Communications
- **An Efficient and Low latency Deep Inertial Odometer for Smartphone Positioning** 2021
  IEEE Sensors Journal

CERTIFICATIONS

AI for Medical Diagnosis — DeepLearning.AI

Machine Learning — Stanford Online

Deep Learning Specialization — DeepLearning.AI

LANGUAGES

Arabic English