

Muhammad N. ElNokrashy

APPLIED SCIENTIST · ML / AI · SOFTWARE ENGINEER

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Education

Bachelor of Science in Computer Science--Honors, Minor in Mathematics Cairo, Egypt
THE AMERICAN UNIVERSITY IN CAIRO (AUC) 2014–2018
• GPA: 3.57 (Major: **3.78**) Thesis: *Neural Video Segment Indexing and Retrieval by Text Queries*
🔗 <https://github.com/bkhmsi/forget-me-not>

Selected Publications

<https://scholar.google.com/citations?user=LMKKHqQAAAAJ>

(**Co-FIRST AUTHOR** • **ORAL**) In **ACL 2024**. *62nd Annual Meeting of the Association for Computational Linguistics*.
📖 Investigating Cultural Alignment of Large Language Models.
🔗 (arXiv:2401.08919) <https://aclanthology.org/2024.acl-long.671/>

(**FIRST AUTHOR** • **ORAL**) In **ArabicNLP 2024**. *Second Arabic Natural Language Processing Conference*.
📖 A Context-Contrastive Inference Approach To Partial Diacritization.
🔗 (arXiv:2401.08919) <https://aclanthology.org/2024.arabnlp-1.8/>

(**FIRST AUTHOR** • **ORAL**) In **AMTA 2022**. *Biennial Conference of Association for Machine Translation in the Americas*.
📖 Language Tokens: A Frustratingly Simple Approach Improves Zero-Shot Performance of Multilingual Translation.
🔗 (arXiv:2208.05852) <https://aclanthology.org/2022.amta-research.6/>

(**Co-FIRST AUTHOR** • **SPOTLIGHT**) In **MemARI (NeurIPS 2022); L2L (ICLR 2021)**. *Learning to Learn Workshop*.
📖 The Emergence of Abstract and Episodic Neurons in Episodic Meta-RL.
🔗 (arXiv:2104.02959)

(**Co-FIRST AUTHOR** • **ORAL**) In **WANLP-20 (COLING)**. *Fifth Arabic Natural Language Processing Workshop*.
📖 Deep Diacritization: Efficient Hierarchical Recurrence for Improved Arabic Diacritization.
🔗 (arXiv:2011.00538) <https://aclanthology.org/2020.wanlp-1.4>

Professional Experience

AI RESEARCH LEAD, COFOUNDING ENG. AT EAI EAI, EnergyAI Berlin, Egypt 2025–Present
• Establishing a small team on small foundation model research and development, with a focus on agent-capable LMs.

RSDE AT MICROSOFT AI EDC, Microsoft, Egypt 2023–2025
• Researched recommendation and personalization systems for real-time News feeds
• MSN: Led development of monitoring & insight tools for metrics, quality control & incident response for notifications
• Researched Small Language Models (SLM), and model and data efficiency for edge and high-volume scenarios
• Won most creative in social media product specification internal hackathon

APPLIED SCIENTIST AT MICROSOFT TRANSLATOR ATLC, Microsoft, Egypt 2020–2023
• Led and delivered LangTokens—improving translation into non-English languages by 38.7% relative avg. COMET
• Developed & maintained an in-house multi-node large model training framework
• Researched filtering and data efficiency for NMT; focus on low-resource languages

RSDE AT LUIS.AI ATLC, Microsoft, Egypt 2018–2020
• Developed & deployed interpretable sparse word embeddings—improved performance by 43% and runtime by 4x
• Researched multi-lingual (Write once, deploy in many languages) and contextual (multi-turn chat) embeddings for data efficiency in hand-crafted NLU scenarios—before Large Language Models (LLM)

Volunteering & Outreach (recent)

- **Intern Mentor (Best Mentor Award)** at Summer Engineering Program, ML specialization, 2022, Microsoft, Cairo.
- **Volunteer Judge** at First AUC Robotics Virtual Hackathon, 2020, AUC, Cairo.
- **Volunteer Judge (Junior Division)** at Minsweepers 2019, AUC, Cairo.
- **IndabaX Speaker** *A History of Text Representations*, 2019, AUC, Cairo.

Skills & Technologies

- ML/AI (7+ years): Python, PyTorch, HuggingFace.
- Data Wrangling (1+ years): PySpark, Pandas, SQL, KQL/Kusto QL.
- Asset & Project Management (5+ years): Git, Github, Azure DevOps.
- Low Level (2+ years): C++, Linux.
- New (<1 year): Rust, Parallel Programming, CUDA.
- Other (<2 years): C#.