

Muhammad Nael ElNokrashy

RESEARCH SOFTWARE ENGINEER · MICROSOFT

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Education

The American University in Cairo (AUC)

Cairo, Egypt

BACHELOR OF SCIENCE IN COMPUTER SCIENCE—WITH HONORS

2014 - 2018

- GPA: 3.57 (Major: **3.78**)
- MINOR in Mathematics
- THESIS: **Forget-Me-Not**: “Neural Video Segment Indexing and Retrieval by Text Queries”
🔗 <https://github.com/bkhmsi/forget-me-not>

Professional Experience

Research Engineer at **Microsoft Translator**

Cairo, Egypt

ADVANCED TECHNOLOGY LAB CAIRO (ATLC), MICROSOFT, EGYPT

2020–Present

- Researching **filtering** and **data efficiency** for NMT
- Researching **large models**, **sparsity**, and generalization on **novel domains**

Research Engineer at **Language Understanding Service** (was LUIS.ai)

Cairo, Egypt

ADVANCED TECHNOLOGY LAB CAIRO (ATLC), MICROSOFT, EGYPT

2018–2020

- Developed interpretable sparse word embeddings, showing improved task and run-time performance in production
- Researched multi-lingual and contextual embeddings for data efficiency

Publications (Highlights)

scholar.google.com/citations?user=LMKKHqQAAAAJ

(**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 • WORKSHOP) In **ENLSP (NeurIPS 2022)**. *Efficient Natural Language and Speech Processing*.

📖 Depth-Wise Attention (DWAtt): Layer Fusion for Data-Efficient Classification.

🔗 (arXiv:2209.15168) https://neurips2022-enlsp.github.io/accepted_papers.html

(**CO-** AUTHOR • WORKSHOP) In **WANLP-22 (EMNLP 2022)**. *Arabic Natural Language Processing*.

📖 The Shared Task on Gender Rewriting.

🔗 (arXiv:2210.12410)

(**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>

Presentations

WORKSHOP *IndabaX Egypt*, Spring 2019. “A History of Text Representations”. AUC, Cairo, Egypt.

Assistant Speaker on invited talk with Dr. Ahmed Tawfik, and Badr AlKhamissy.

HACKATHON *Amazon AWS Hackathon*, 2018. *3rd place*. AUC, Cairo, Egypt.

App takes a children’s book and generates questions from its text, in a voiced QnA format.

HACKATHON *Amazon Alexa Hackathon*, 2017. *2nd place*. AUC, Cairo, Egypt.

“Scripty” is a voice-controlled programming adventure for kids.

Teaching Experience

2022	Intern Mentor , Summer Engineering Program <ul style="list-style-type: none">• Won Best Mentor award.	ATLC
Fall 2018	Graduate TA , Practical Machine Deep Learning <ul style="list-style-type: none">• Held weekly office hours for general ML coursework• Held focused office hours at semester-end for final project	AUC
Fall 2018	Graduate TA , Embedded Systems <ul style="list-style-type: none">• Assisted in weekly lab sessions for Embedded Systems programming in C• Graded lab and course assignments	AUC
2016–2017	Undergraduate TA , Computer Programming Fundamentals II <ul style="list-style-type: none">• Mentor for individual teams (of 3) for semester-end project and local mock-CPC• Held office hours and volunteer labs for C++ programming	AUC
2016–2017	Volunteer Undergraduate LA , Digital Logic Design I Lab <ul style="list-style-type: none">• Lab assistant for weekly sessions on FPGA programming in Verilog	AUC
Fall 2016	Volunteer Undergraduate TA , Computer Organization and Assembly Programming <ul style="list-style-type: none">• Held office hours and volunteer labs for assembly programming in MIPS	AUC

Outreach & Volunteering

2020	First AUC Robotics Virtual Hackathon , Volunteer Judge	AUC (online)
2019	Minesweepers 2019 , Volunteer Judge of Junior Division	AUC, Cairo, Egypt
2017	CSCE Association , Academics Committee Advisor	AUC
2017	MATE ROV , Non-technical Team Advisor of AUC Aquavaders	AAST, Alex, Egypt
2014	Volunteer English Tutor , at African minority learning center	Cairo, Egypt