

Islam Mo. Mesabah

Kaiserslautern, Germany

(+49) 15753248050

islam.r.mesabah@gmail.com

[Website](#)

LinkedIn: [Islam Mesabah](#)

GitHub: [Islam Mesabah](#)

Google Scholar: [Islam Mesabah](#)

EXPERIENCE

Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI), Kaiserslautern, Germany — *Researcher and Teaching Assistant & PhD student*

May 2023 - Present

- > Structure PDF files using OCR, prompting LLM, and Deep learning models.
- > Work on responsible and trustworthy AI projects
- > Work with LLM tuning and validation.
- > Exploring Agents' collaboration
- > Exploring using LLM for a multi-class classification setup
- > Exploring using LLM for code optimization and generation
- > LLM as a researcher.
- > Manage and teach an annual course on engineering with Generative AI to more than 300 students.
- > Work on DFKI's extensive cluster infrastructure, equipped with powerful GPUs.

Technical University of Kaiserslautern, Kaiserslautern, Germany— *Research Assistant*

August 2022 - May 2023

- > Part-time Student working a job
- > Worked on style transfer for English sentences as part of NLP technologies
- > Worked with large language models, the main technologies behind ChatGPT.
- > Worked on RPTU's cluster infrastructure equipped with A100-32GB GPUs.

German University In Cairo, New Cairo, Egypt— *Research And Teaching Assistant*

September 2021 - June 2022

- > Faculty of Media Engineering and Technology (MET)
- > Department of Computer Science and Engineering (CSEN)
- > Tasks: Teaching, Marking, Material Preparation.
- > Teach Database Systems. 8 tutorials every week.
- > Teach Concepts of Programming Languages. 7 tutorials every week.
- > Bachelor Thesis Supervision. 4 students.

Robusta Studio, Cairo, Egypt— *Backend Developer Intern*

August 2021 - October 2021

- > Learned new technologies: Laravel.
- > Deal with the agile web development life cycle in a real-time project.
- > Build a real-time API that handles data validation, user authentication, and CRUD operations into a MySQL database using Laravel.

German University In Cairo, New Cairo, Egypt— *Undergraduate Researcher*

August 2020 - September 2020

- > Enhance the deep learning model for language identification on Arabic-English CS by adding an n-gram and a word embedding layer.

German University In Cairo, New Cairo, Egypt— *Undergraduate Researcher*

July 2019 - September 2019

- > Extend a block-based visual language for the NAO Robot to allow children to interact with it in different ways (text, speech, movement, etc).

SKILLS

Programming languages:

- Python
- Java
- Julia
- PHP

Machine Learning:

- Keras
- PyTorch
- TensorFlow
- Scikit-learn
- OpenCV
- NVIDIA-CUDA Toolkit
- Langchain
- Transformer
- Deepspeed
- PaddleOCR
- CVAT for Data Annotation
- Label-Studio
- Amazon Bedrock

Database:

- MySQL
- MongoDB
- Firebase
- AWS DynamoDB

Web:

- JavaScript
- MERN Stack
- HTML
- CSS
- Laravel

Tools:

- Visual Studio
- Jupyter Notebook
- Colab
- Git
- GitHub
- GitLab
- Pluto for Julia
- AWS API Gateway
- AWS Lambda
- Unity

EDUCATION

Rhineland-Palatinate Technical University, Kaiserslautern, Germany — *Ph.D. in Computer Science*

December 2025 - Present

> AI in research

Technical University of Kaiserslautern, Kaiserslautern, Germany — *M.Sc. in Computer Science*

April 2022 - March 2024

> CGPA: 1.6

> First Specialization: Intelligent Systems

> Second Specialization: Information Systems

> Master's Thesis: Large Language Models for instructed and effective code generation using Documentation of APIs

> Master's Project Grade: Excellent (A)

German University in Cairo, New Cairo, Egypt— *B.Sc. in Computer Science*

October 2016- July 2021

> CGPA: 1.25

> Faculty of Media Engineering and Technology (MET)

> Major: Computer Science and Engineering (CSEN)

> Bachelor Thesis: Subword-Level Language Identification for Arabic-English Intra-Word Code-Switching

> Bachelor Project Grade: Excellent (A+)

Rabba Althanwea, North Sinai, Egypt— Secondary School

2014 - 2016

> Rank in North Sinai Governorate.

PUBLICATION

Gerrit Großmann, Larisa Ivanova, Sai Leela Poduru, Mohaddeseh Tabrizian, **Islam Mesabab**, David Selby, Sebastian Vollmer. "The Power of Stories: Narrative Priming in Multi-Agent Networked Public Goods Games"

— 2025 The 1st International Electronic Conference on Games.

> <https://sciforum.net/index.php/paper/view/24355>

Elmansoury, Sary, Islam Mesabab, Gerrit Großmann, Peter Neigel, Raj Bhalwankar, Daniel Kondermann, and Sebastian J. Vollmer. "Decomposing Visual Classification: Assessing Tree-Based Reasoning in VLMs."

— arXiv preprint arXiv:2509.09732 (2025).

> <https://arxiv.org/abs/2509.09732>

Maged, Roba, Mohamed Sabry, Ahmed Ali, **Islam Mesabab**, Ahmed Mazhr, and Hassan Soubra. "An Intrusion Detection System for Smart Autonomous E-Bikes"

— 2023 Eleventh International Conference on Intelligent Computing and Information Systems (ICICIS), pp. 233-240. IEEE, 2023.

> <https://ieeexplore.ieee.org/abstract/document/10391189>

Seoudi, Mariam Sherif, **Islam Mesabab**, Mohamed Sabry, and Hassan Soubra. "Virtual Bike Lanes for Smart, Safe, and Green Navigation"

— 2023 IEEE Conference on Power Electronics and Renewable Energy (CPERE), pp. 1-6. IEEE, 2023.

> <https://ieeexplore.ieee.org/abstract/document/10119537>

Sabty, Caroline, **Islam Mesabab**, Özlem Çetinoğlu, and Slim Abdennadher. "Language Identification of Intra-Word Code-Switching for Arabic-English"

— Array 12 (2021): 100104.

> <http://dx.doi.org/10.1016/j.array.2021.100104>

AWARDS

In October 2022, the Deutschlandstipendium for gifted and high-performing students, supported by the German government and AWS, decided to include me in this scholarship due to my academic achievement.

In March 2022, Second Place in Hacktrick Hackathon 2022 in AI held by DELL technologies, led my hackathon team of four members, and achieved second place in the hackathon, with a 2000 USD prize.

In March 2022, Al-Thuraya MENA Scholarship for a Master's Degree in Science at TU Kaiserslautern, for my academic achievement, Al-Thuraya Foundation decided to give me a partial scholarship to start my Master's studies at the Technical University of Kaiserslautern.

In May 2019, First Place in the Technical Innovation Award at Shell Eco-Marathon Asia 2019 in Malaysia, the GUC

Innovators team developed a system for vehicle drivers with physical limitations using a drive-by-wire system controlled via brainwave and facial sensors.

In July 2016, full Scholarship for a Bachelor's Degree in Engineering, as I ranked among the students in the North Sinai governorate. Consequently, this encourages the German University in Cairo, "GUC", to offer me a full scholarship for a bachelor's degree in Engineering.

Academic Service

- **AAAI 2026 – Forty-First AAAI Conference on Artificial Intelligence** — Program Committee Member - [LINK](#)

Invited Talks & Tutorials

- **Instructor, IDESSAI 2024 (Inria–DFKI European Summer School on AI)** — Language Models and Structured Knowledge in AI, Track A: Large AI Models, September 2024 - [LINK](#)

PROJECTS

CoderAPI: Large Language Models for instructed and effective code generation using Documentation of APIs (Master's Project) — *LLM, Transformers, Pytorch, Deepspeed*

> Worked on improving multi-line Python code generation using Large Language Models, specifically Instruct CodeT5+ 16B, by combining prompt engineering, fine-tuning, and Retrieval-Augmented Generation (RAG) with API documentation. Built a synthesized dataset of 938 samples across 46 APIs to help the model generate more accurate code for both seen and unseen APIs based on user instructions in English. Achieved noticeable improvements in code generation quality, increasing ICE score by 0.2 and CodeBLEU by 0.33%, while exploring the impact of API documentation and prompting strategies on model performance.
> <https://github.com/islammesabab/CoderAPI>

Arabic-English Language Identification on Intra-Word Code-Switching (Bachelor's Project) — *Keras, TensorFlow, DyNet, Scikit-learn*

> Building a deep learning model for multilingual text identification, with a focus on code-switched words containing multiple languages in a single token, such as “elgame” [the game]. The model performs word segmentation into language-specific parts (“el”, “game”) and predicts the language of each segment (“ar”, “en”). Exploring sequence modeling and token-level classification techniques to improve mixed-language understanding in real-world text.

For more projects, please check my [GITHUB ACCOUNT](#).

VOLUNTEER

Egypt Scholars Inc., California, USA— DAR team member

February 2023 - Present

> Held online educational webinars on social media on different topics. Taking care of all processes from connecting with the speaker to finally hosting and publishing the webinar.

GUC Innovators, New Cairo, Egypt— R&I Team Head

November 2020 - August 2021

> Led the R&I team to get innovative ideas and apply them to our car and show them in the Asia Shell Eco-Marathon to compete for the Off-Track award.

IEEE GUC Student Branch, New Cairo, Egypt— Software Committee Member

October 2019 - July 2020

> Discuss and explain software topics with the committee members.

German University in Cairo, New Cairo, Egypt— Junior Teaching Assistant

September 2019 - December 2019

> Help the main Teaching Assistant teach the Introduction to Computer Science Course.

GUC Innovators, New Cairo, Egypt— R&I Member

December 2018 - November 2020

> Create an Android app that connects to the Firebase database and updates its content automatically.
> Trying to get innovative ideas and apply them to our car and show them in the Asia Shell Eco-Marathon to compete for the Off-Track award.

German University in Cairo, New Cairo, Egypt— Junior Teaching Assistant

September 2018 - December 2018

> Help the main Teaching Assistant in teaching the Data Structure and Algorithms Course.

LANGUAGES

- Arabic: (Native)
- English: (Advanced)
- German: (Beginner)