

# Eslam Mohamed

+201064798837 • 6<sup>th</sup> of October, Giza, Egypt • [Es.ahmed@nu.edu.eg](mailto:Es.ahmed@nu.edu.eg) • [Eslam Ahmed | LinkedIn](#) • [GitHub](#)

I seek to solve complex problems with the simplest solutions

## Professional Experience

### Backend Engineer

Sep 2024 – Present

Settle Payments – Cairo, Egypt

- Currently developing and maintaining backend APIs for seamless integration with Oracle EBS, implementing efficient SQL and PL/SQL solutions to optimize data handling and processing for improved application performance.
- Collaborating with cross-functional teams to design database schemas and troubleshoot integration issues, ensuring system stability, reliability, and enhanced data accessibility.

### Generative AI Research Intern

Jul 2024 – Nov 2024

Deakin University – Melbourne, Australia

- Conducted research on leveraging AI to automate clinical documentation, focusing on improving the efficiency and accuracy of medical note generation.
- Contributed to research on integrating Generative AI into healthcare practices, emphasizing trustworthy knowledge representation and workflow optimization.

### Co-founder & Data Scientist

Apr 2023 – Sep 2024

Ciqler – Munich, Germany (Remote)

- Working as a part of the founding team for developing an AI-powered, prompt-based gift recommendation engine with advanced contextual understanding
- Collaborated on scaling, optimizing, and architecting the system to enhance accuracy and speed, surpassing previous versions and outperforming current state-of-the-art models.

### Data Scientist

Jul 2023 – Aug 2024

Open Science – Sao Paulo, Brazil (Remote)

- Employed advanced segmentation and classification models to extract insights from multispectral imagery and optimized processes for improved decision-making, uncovering patterns and trends within complex data.
- Collaborated closely with a diverse team to understand AI needs, achieving results, and contributing to advancing the understanding of coffee characteristics and chemosensory aspects, unlocking novel possibilities for the industry.

### Image Processing Research Intern

May 2022 – Aug 2022

CIS Research Center - Giza, Egypt

- Implemented image processing and computer vision techniques to collaborate in the early detection of ROP disease
- Acquired research skills and the ability to properly document work and research experiments

## Education

Nile University - Giza, Egypt

- Bachelor of Computer Science (2020 – 2024)
- GPA: 3.9/4.0 (Highest Honors)

## Skills

**Technical:** Python, C++, SQL, TensorFlow/Keras, Scikit-learn, NumPy, Streamlit, Power BI, Docker, MongoDB, Git, REST API

**Non-Technical:** Research, Adaptability, Leadership, Presentation, Communication, Problem-Solving, Analytical Thinking

## Projects

EEG-Based Inner Speech Classification

- Collaborated on improving the accuracy of inner speech EEG signal classification for Brain-Computer Interface applications
- Employed a range of signal processing techniques, including PCA and Common Spatial Patterns, to enhance optimization with ML models
- Investigated DL methodologies, such as Fully Connected Networks and CNNs, and utilized preprocessing techniques like spectrogram construction as input for the EEGnet model to address challenges posed by limited dataset size

#### Dataset from Museum Archives for Instance-level Recognition

- Collected and preprocessed +100 GB of visual and tabular data for versatile application in artifact classification
- Applied extensive preprocessing of the collected data to enhance its usability for various tasks, including instance classification, segmentation, and other related analyses
- Utilized machine learning and computer vision techniques for instance-level recognition of Egyptian monuments such as CNN, vision transformers, vgg16 as feature extractor along with decision tree

#### Breast Tumor Data Synthesis and Classification

- Utilized Machine Learning and Deep Learning expertise to address the real-world challenge of classifying breast tumors (benign, malignant, or non-existent) using limited data from Baheya Hospital
- Utilized Developed and implemented an innovative breast tumor classification system using GANs, effectively addressing challenges associated with limited data

#### Satellite-Based Deforestation Detection Using Advanced Image Analysis

- Employed cutting-edge techniques, including normalization, K-Means clustering, and segmentation, to identify the temporal evolution of forested and bare areas between 2016 and 2017 in Malaysia that are affected by deforestation
- Implemented a cloud removal algorithm from scratch to enhance data accuracy and reliability

#### Enhanced Contextual Product Recommendations using Fine-tuned Bert

- Designed and implemented a cutting-edge contextual product recommendation system aimed at helping users find the perfect gift for their friends.
- Leveraged advanced NLP methodologies to elevate the contextual comprehension of the underlying data.

### Publications

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[Google Scholar Link](#)

### Extracurricular Activities

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| • ITCS School Representative                 | <i>Aug 2022 – Nov 2023</i> |
| • Co-founder and Organizer of NUAH Hackathon | <i>Jul 2021 – Aug 2023</i> |
| • PR member at IEEE NU Branch                | <i>Aug 2021 – Nov 2022</i> |

### Awards and Certificates

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- **Top 3 Finalist** among 43 teams in Lablab's Langchain Hackathon (**MENA region**)
- **Ranked among top 10 Projects** in Valeo's Graduation Project Sponsorship Program
- **1<sup>st</sup> Place** in the 17th Undergraduate Research Forum in the **Machine Learning Track**
- **2<sup>nd</sup> Place** in AUC's Venture Capital Competition
- **3<sup>rd</sup> Place** in the Hult Prize Entrepreneurship Competition for pitching our startup idea
- **President's Honors** for outstanding academic performance (**4 consecutive semesters**)

### Languages

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- **Arabic:** Native language
- **English:** Advanced (PTE Score: 78/90)