

# AI AND ML ENGINEER



EZZELDEEN QUTB

# INTRODUCTION



## ABOUT ME



I'm Ezzeldeen Qutb, an AI & ML Engineer with a passion for Computer Vision. I build intelligent systems that can see, understand, and act on visual data, helping businesses turn raw information into actionable insights. My work spans the full data science workflow from cleaning and exploring datasets to creating meaningful visualizations and I use machine learning to tackle real-world problems, bridging the gap between data and solutions.

I also bring a creative edge from my background in music production, video editing, and graphic design, giving me a unique perspective on how technology and creativity intersect. Whether it's coding a vision model, producing a beat, or designing an engaging project, I'm driven by building things that are smart, scalable, and impactful.

# EDUCATION

B.Sc. in Artificial Intelligence and Data Science – Zagazig National University | Expected Graduation: June 2027

## Relevant Courses & Certifications:

- Data Science Essentials with Python – [Cisco Networking Academy](#) | Sep 2025
- AI and Machine Learning – [Sprints](#) | Aug 2025
- Getting Started with Deep Learning – [NVIDIA](#) | Jul 2025
- Algorithm Analysis & Design Course From A to Z – [Udemy](#) | Feb 2025



# SKILLS AND EXPERTISE

## AI & ML

- Computer Vision (image classification, detection, recognition)
- Deep Learning (CNNs, transfer learning, model training & evaluation)
- Machine Learning (regression, classification, clustering)

## Programming & Tools

- Python (NumPy, Pandas, Matplotlib, Scikit-learn, OpenCV, TensorFlow, PyTorch, Seaborn, SQLite)
- Azure Ai
- Web development basics
- Game development
- CyberSecurity Fundamentals

## Data Science

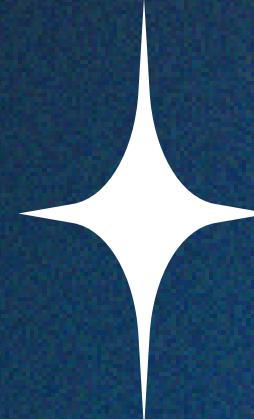
- Data preprocessing & cleaning
- Exploratory Data Analysis (EDA)
- Data visualization & storytelling
- Data engineering
- Power Bi / Excel

## Soft Skills

- Problem-solving and analytical thinking
- Adaptability across tech and creative projects
- Time management and project delivery
- Team work and Communication in projects
- Touch typing
- Git/GitHub for version control



# WORK EXPERIENCE



## **Computer Vision Trainee – National Telecommunication Institute (NTI) | Aug 2025 – Sep 2025**

- Gained hands-on experience in computer vision projects and practical AI implementations.

## **Computer Vision Trainee – Information Technology Institute (ITI) | Jun 2025 – Jul 2025**

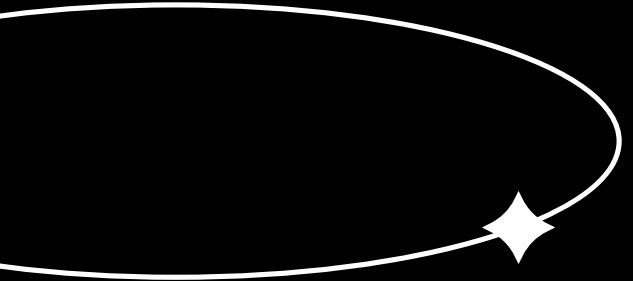
- Developed and tested computer vision models, improving image and video analysis workflows.

## **Machine Learning Intern – Elevvo Pathways | Aug 2025 – Sep 2025**

- Applied machine learning techniques to real-world datasets and contributed to model development.

## **AI & Data Science Engineering Intern – IEEE | Nov 2024 – Feb 2025**

- Worked on AI and data science projects, including data preprocessing, visualization, and predictive modeling.



# SERVICES

## MACHINE LEARNING & AI SOLUTIONS

- Model training & deployment
- Predictive analytics and classification models
- Computer Vision projects (object detection, recognition, image analysis)

## DATA SCIENCE & AUTOMATION

- Data cleaning, preprocessing, and visualization
- Web scraping & automated pipelines
- Dashboards and reporting

## PROGRAMMING & DEVELOPMENT

- Build robust and scalable applications tailored to your needs.
- Develop custom web tools and backend scripts for efficient workflows.
- Integrate APIs and automation pipelines to streamline processes.
- Deliver end-to-end software solutions that turn ideas into reliable systems.



# PROJECT SHOWCASE

## MY KEY PROJECTS

Here's a quick glance at the four projects I've worked on, showcasing my skills in AI, Machine Learning, Data Science, and Computer Vision. Click on each project to dive deeper.

### 1. Project 1: [[\*\*Diabetic Retinopathy Detection\*\*](#)]

- Detects eye disease from retinal images using AI.

### 2. Project 2: [[\*\*Heart Disease AI Detector\*\*](#)]

- Predicts heart disease risks from patient data.

### 3. Project 3: [[\*\*PanCake MusicBot \(AI-Powered\)\*\*](#)]

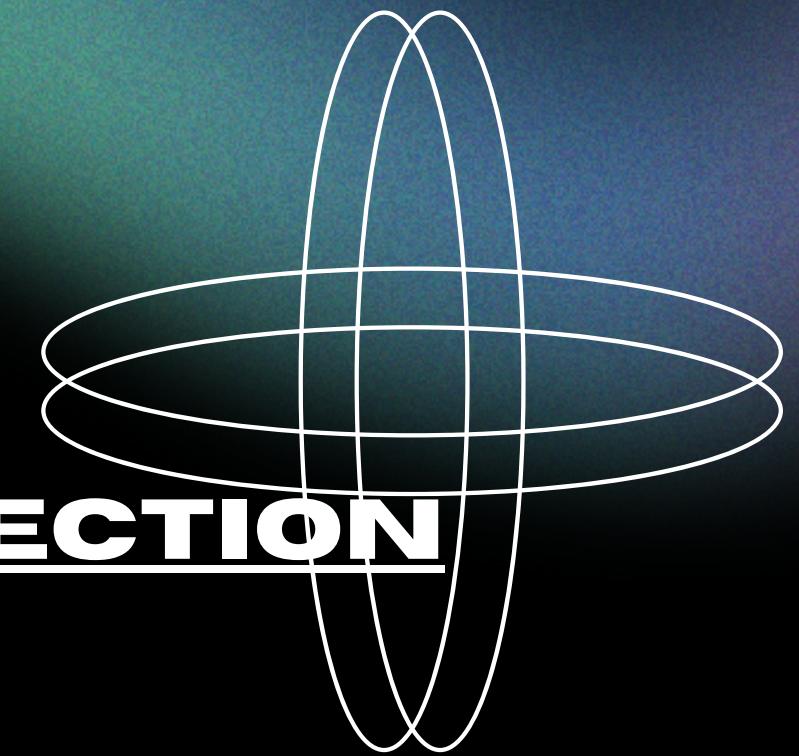
- AI bot that curates and streams music.

### 4. Project 4: [[\*\*Automated Web/Data Scrapper\*\*](#)]

- Extracts and organizes web data automatically.

# PROJECT SHOWCASE

## **PROJECT 1 - DIABETIC RETINOPATHY DETECTION**



Diabetic retinopathy is a leading cause of blindness worldwide, and early detection is critical. This project focuses on applying Computer Vision and Deep Learning to automatically analyze retinal fundus images and classify the presence of diabetic retinopathy.

I designed and trained Convolutional Neural Networks (CNNs) with transfer learning to extract features from medical images and improve classification accuracy.

The workflow included data preprocessing, augmentation, and balancing techniques to handle real-world dataset challenges. By applying image enhancement filters and normalization, the model was able to generalize effectively across different image qualities.

The system has potential use as an assistive diagnostic tool for healthcare providers, helping detect disease earlier and reducing manual workload.

Tech stack: Python, TensorFlow, Keras, OpenCV, NumPy, Matplotlib

# PROJECT SHOWCASE

## **PROJECT 2 - HEART DISEASE AI DETECTOR**

Heart disease remains one of the top global health challenges, and predictive analytics can play a vital role in prevention. This project is a Machine Learning classifier that predicts the likelihood of heart disease based on patient health data.

I worked through a complete data science pipeline: collecting and cleaning structured medical data, applying feature selection and engineering techniques, and building predictive models using supervised learning. Models such as Logistic Regression, Decision Trees, and Random Forests were tested, with hyperparameter tuning performed to optimize results.

The project demonstrates how AI-driven health analytics can identify high-risk patients, enabling proactive medical intervention.

Tech stack: Python, Pandas, Scikit-learn, Seaborn, Matplotlib

# PROJECT SHOWCASE

## **PROJECT 3 - PANCAKE MUSICBOT (AI-POWERED)**

PanCake is a Discord-based music bot designed with AI-enhanced features to provide smarter, more engaging user interactions. Unlike a traditional music bot, PanCake integrates machine learning to offer intelligent playlist recommendations and context-aware music search based on user input.

The bot connects directly with the Discord API, allowing users to queue, control, and discover music seamlessly within their servers. By incorporating ML models for recommendation, it enhances user experience beyond simple play/stop functionality, turning it into a personalized music assistant.

This project combines my expertise in AI, software engineering, and music production, reflecting how technology and creativity intersect.

Tech stack: Python, Discord API, ML libraries (Scikit-learn, TensorFlow), SQLite



# PROJECT SHOWCASE

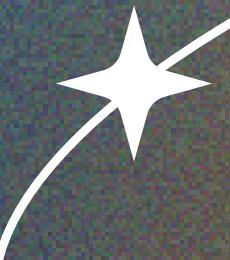
## PROJECT 4 - AUTOMATED WEB/DATA SCRAPER

The goal of this project was to move beyond basic web scraping by creating a tool that not only extracts data from a given URL but also automates cleaning, structuring, and exporting the results. Instead of ending with raw HTML, the user receives ready-to-use datasets that can be plugged directly into analysis or machine learning workflows.

The system leverages BeautifulSoup and Requests for scraping, then applies automated preprocessing steps to handle duplicates, missing values, and formatting issues. Results can be exported to CSV, JSON, or Pandas DataFrames, making it flexible for different use cases. An optional visualization layer generates quick insights without requiring extra coding.

This project highlights how automation bridges the gap between raw data collection and real-world AI/ML applications, showing the importance of building efficient, end-to-end pipelines.

Tech stack: Python, BeautifulSoup, Requests, Pandas, Matplotlib



# CONTACT

## Phone Number

+20 121 032 2278

## Email Address

[ezzeldeen2005mq@gmail.com](mailto:ezzeldeen2005mq@gmail.com)

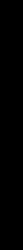
## Github

[My Github](#)

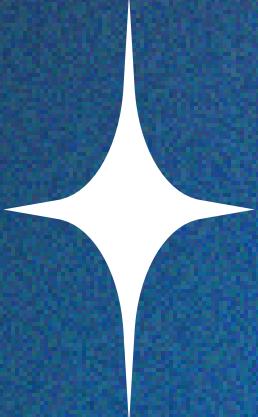
## LinkedIn

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# MORE



# INFORMATION



**THANK YOU!**



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