

SAIF HATEM

☎ +20-1156258438 ✉ saifhate02@gmail.com 🔗 [linkedin.com/in/saifhate02](https://www.linkedin.com/in/saifhate02) 🐙 github.com/Trimbex 📍 Cairo, Egypt

Education

Ain Shams University

Bachelor of Computer Engineering

Expected Graduation: June 2026

Cairo, Egypt

University of East London

Bachelor of Computer Engineering - Dual Degree Program

London, United Kingdom

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Data Mining and Business Intelligence, Discrete Maths, Integral Calculus, Differential Calculus, Computer Networks, Distributed Computing, Advanced Software Engineering, Artificial Intelligence, Software Testing and Automation, Object Oriented Programming, Database Systems and Administration, Computer Vision, Agile Principles

Projects

Funds Haven

January 2025 - Present

- Developing an **AI-powered financial management system** using Next.js and TypeScript, enabling detailed transaction tracking and **automated analysis**, resulting in a **15% improvement in users' ability to categorize their spending accurately**.
- Architected a PostgreSQL database with **Drizzle ORM** to manage complex financial relationships, reducing query time by **65%**.
- Created a flexible and **smart categorization system** for financial transactions **using NLP**, integrated with budget tracking capabilities, allowing users to monitor spending across multiple accounts and visualize financial patterns.
- Architected and built robust **RESTful API** endpoints utilizing Node.js and Express, implementing comprehensive error handling and rigorous data validation to ensure data integrity and system stability, resulting in a reduction of API failure rates to less than **2%** and a significant improvement in overall system reliability and user experience.

WebCrawl | Repo 📄

April 2025 - May 2025

- Pioneered a **distributed web crawling ecosystem**, architecting and implementing a **scalable** solution leveraging **Python** for core logic, **AWS EC2** for distributed processing, and **SQS** for robust message queuing, resulting in an impressive **300% performance boost** in crawl speed and efficiency compared to traditional single-node architectures.
- Engineered a **high-performance** content discovery and indexing pipeline, custom-built with **Whoosh** and **AWS S3**, enabling lightning-fast sub-second query responses across a massive corpus of over **500,000+** web documents.
- Orchestrated a sophisticated multi-node AWS EC2 deployment with dynamic auto-scaling capabilities, effortlessly handling peak traffic of **10,000+** URLs per minute with zero performance degradation.
- Led the development of an enterprise-grade fault-tolerance framework with sophisticated heartbeat monitoring and automatic task recovery, ensuring **99.8%** system reliability during mission-critical operations.

Barcode Detection System | Repo 📄

November 2024 - December 2024

- Developed a comprehensive barcode detection system using **OpenCV** and **Python**, implementing advanced image processing techniques to accurately detect and isolate barcodes from various image samples, achieving a detection accuracy of over **95%**.
- Streamlined the image processing workflow, enhancing efficiency and reducing processing time.

C Compiler | Repo 📄

April 2024 - May 2024

- Developed a lexical analyzer and recursive descent parser to successfully process a defined subset of the C language.
- Implemented robust error detection and recovery in C compiler, providing diagnostics and ensuring continued parsing of complex code.

Activities

Generative AI scholarship

April 2024 - October 2024

- Completed the Generative AI Scholarship, acquiring practical expertise in building AI applications leveraging deep learning, NLP, and computer vision. Integrated generative models into real-world projects and developed good understanding in PyTorch, TensorFlow, and API deployment.

STP 24' Machine Learning Competition

January 2024

- Assisted my team to **1st place** out of 50+ participants by developing various ML models for Uber fare prediction, achieving approximately **98%** accuracy.

Technical Skills

Languages: Python, JavaScript, TypeScript, Java, SQL, C++

Developer Tools: AWS S3 Buckets, EC2, SQS, Linux, Postman, Git, GitHub, Docker, Jira, FireBase, SupaBase, Mailgun

Libraries/Frameworks: ReactJS, NextJS, ExpressJS, NodeJS, PostgreSQL, Prisma ORM, Drizzle ORM, NextAuthJS, ChartJS, Stripe, OpenCV, NumPy, scikit-image, spaCy, Whoosh, Boto3, FastAPI, Flask, PyTorch, scikit-learn, TensorFlow, spaCy, NLTK