Abdelrahman Osman

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Education

German International University *BS in Computer Science*   *Winter 2022 – June 2026*
- GPA: 4.0/4.0. Ranked 1st out of 300+ students.
- **Coursework:** Software Engineering; Computer Architecture; Networks; Operating Systems; Distributed Systems; Data Structures and Algorithms; Databases; Software Architecture; Software Testing; Cloud Computing.

Experience

Data and Software Engineering Intern   *Cairo, EG*
Microsoft   *July – Sept 2024*
- Refactored an API, achieving a 40% reduction in code duplication and a 20% decrease in future development time.
- Achieved a 93% improvement in data generation, reducing processing time from 8 hours to 30 minutes.
- Processed and cleaned a dataset of 1,200 HTML files, ensuring data quality and consistency.
- Applied data augmentation techniques to upsample the dataset to 100,000 instances.
- Trained a Llama model on the augmented dataset, achieving 99% accuracy and reducing error rates by 25%.
- Studied deep learning models, focusing on CNNs and Transformers.

Software Engineer Intern   *Cairo, EG*
Orange Innovation   *July - Oct 2023*
- Designed and developed full-stack web applications using Java Spring Boot, Node.js, and Angular.
- Optimised data access with Spring Data JPA, improving performance by 20%.

Teaching Assistant, Junior   *Cairo, EG*
German International University   *Jan 2023 - June 2024*
- Assisted in teaching Programming I & II, contributing to a 30% overall increase in grades for 400+ students.

Projects

- **Tutor Flow** ⬀: Developed a full Udemy clone using MongoDB, **Nestjs Backend** ⬀ and **Nextjs Frontend** ⬀.
- **Abo Alaraby E-commerce Website** ⬀: Built a scalable e-commerce platform using React.js, Node.js, Express.js, and MongoDB. Integrated JWT authentication, automated emails, and implemented Jest and Cypress tests.
- **University Management System:**
  - **Implemented** ⬀ key modules using Java, OOP, and design patterns, streamlining administrative workflows.
  - **Migrated** ⬀ to Spring Boot, Gradle, and Angular, improving scalability and maintainability.
- **Smart Home Web Application:**
  - **Version I** ⬀ Built a full-stack app with Spring Boot and Angular, featuring device control and automation.
  - **Version II** ⬀ Enhanced with a .Net Core MVC and C# redesign, optimizing performance and user experience.
- **"The Last of Us" Game** ⬀ Created an immersive game with JavaFX, leveraging advanced data structures and OOP principles to deliver dynamic AI-driven gameplay and interactive user experiences.

Acheivements

- **Ranked** ⬀ 30th at the ACPC 2024, 50th at the ECPC Finals, 1st & 2nd in the GIU qualifications.
- Judged the Arab & African Collegiate Programming Contest (ACPC) 2023 onsite.
- Won 1st place at the Private Eye Hackathon & Don't Pry Hackathon in Germany (Feb, July 2024).
- **Solved 1000+** ⬀ problems using C++ and java on DSA and participated in 100+ online & onsite contests.
- Coached and mentored 100+ students participating in competitive programming competitions.
- Recognized as an Outstanding Pearson International **Top World Achiever** ⬀ In Advanced Level Arabic.

Skills and Tools

Languages, Frameworks & Tools: C++, Java, Python, JavaScript, TypeScript, C, Spring Boot, .Net MVC, Nest.js, Angular, React, Next.js, Express.js, JavaFX, MySQL, MongoDB, Git, Docker, Kubernetes, Kafka, Linux.

Expertise: Full-stack development, OOP & design patterns, competitive programming (Candidate Master), deep learning (LLaMA, CNNs, Transformers), and low-latency system design.