ADEL HEFNY

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PROFESSIONAL SUMMARY

Computer Science undergraduate with a strong foundation in **Data Structures, Algorithms, and Complexity Analysis** (1000+ Codeforces solutions). Experienced in building **scalable full-stack systems** and **GenAI applications**. Passionate about distributed computing and solving complex customer problems through innovative technology.

EDUCATION

Cairo University   **September 2023 - September 2027**
Bachelor's, Computer Science   *GPA: 3.32*
- ICPC Certificate
- Instructor Flashat-CU Designed and delivered a 5-week hands-on course on Git fundamentals to over +30 students.

PROFESSIONAL EXPERIENCE

LyRise   **Remote**
Full Stack Engineer   *February 2026 - Present*
- Multi-Agent AI Orchestration: Engineered a 4-stage agent system (Extractor, Supervisor, Architect, Analyst) to automate the conversion of unstructured data into enterprise-grade diagrams.
- Autonomous Optimization Engine: Architected a headless modeling engine integrating rigorous LLM Evals, enabling AI agents to autonomously prototype, simulate, and validate workflow improvements with high accuracy.
- Advanced Versioning & Visual Diffing: Implemented a hierarchical state management system (Zustand) allowing users to snapshot versions and visually compare changes across process models.

LyRise   **Cairo, Egypt**
Full Stack Engineer Intern   *November 2025 - February 2026*
- LyRise Reply Assistant: Developed a high-performance Chrome extension using React and Vite, optimizing user engagement directly within social platforms.
- Automated Backend Workflows: Leveraged n8n to architect scalable message processing pipelines, reducing manual response time by automating core communication tasks.
- Virtual Business Analyst Feature: Contributed to the development of a guided UI/UX for non-technical users, simplifying complex AI-driven data mapping into intuitive workflows.

freelance   **Remote**
Software Engineer   *December 2023 - January 2024*
- Designed and deployed a full-stack web application to manage maintenance requests, improving request efficiency and user experience.
- Applied software engineering principles (MVC, validation, RESTful APIs) to ensure maintainable and scalable architecture.
- Translated ambiguous client requirements into concrete technical specifications and deployed a full-stack maintenance system using MVC architecture.
- Top Skills: HTML | CSS | JavaScript | Bootstrap | Node js | Express js | MongoDB.

PROJECTS

Xperienced   *August 2025 - September 2025*
- Architected a GenAI-powered mentorship platform using Retrieval-Augmented Generation (RAG) and Vector Databases (ChromaDB), directly aligning with emerging AI technologies.
- Implemented a mentor–user system with authentication, surveys, dashboards, chat, and Paymob payments.
- Developed AI features for body-language analysis (pose detection) and generating personalized feedback reports in Arabic.
- Implemented a virtual mentor using a Retrieval-Augmented Generation (RAG) system powered by ChromaDB as the vector database.
- Owned the full lifecycle from system design to deployment, achieving 5th place in the CU-AI Nexus Hackathon.
- *Link to project*

Resume Builder   *May 2024 - September 2024*

- Built a resume builder enabling users to create, customize, and download professional resumes with ease.
- Leveraged Firebase's cloud platform as a Backend as a Service (BaaS) to manage user authentication and data storage.
- Delivered a seamless, responsive experience that simplified the resume-building process for end users
- Top Skills: HTML | CSS | TypeScript | React.js | Next.js | Tailwind CSS | Version Control | Firebase
- Link to repo: https://github.com/AdelHefny/ProCreds
- *Link to project*

Esports team website   *December 2023 - January 2024*
- Developed a full-featured website for an eSports team with clean design and seamless user experience
- Strengthened problem-solving skills through building dynamic, responsive interfaces and implementing structured content management
- Optimized responsiveness across devices and designed an engaging platform that connects fans and players.
- https://github.com/AdelHefny/e_sports_team
- *Link to project*

SKILLS

Skills: HTML/CSS, JavaScript, Bootstrap, Tailwind CSS, TypeScript, React.js, Next.js, Unit Testing
Backend: Python, Django, Flask, Node.js, Express.js, MVC, Microservices, FastAPI
Databases: MySQL, MongoDB, PostgreSQL, Microsoft SQL Server, Vector DB, Chromadb
Core Concepts: Problem Solving, Data Structures, Algorithms, SOLID Principles, Design Patterns, Agile, Distributed Systems, software development life cycle, Java, C/C++
Deployment: Git, GitHub, GitHub Actions, Docker, Firebase, Azure, Microsoft Azure
AI: transformers, Natural Language Processing (NLP), LangChain, Computer Vision, OpenCV, Pytorch, NumPy, Pandas, Machine Learning, Agentic AI, RAG, Prompt Engineering, LLM Evals
Languages: German, Arabic, English

CERTIFICATIONS

- **HCIA-AI V4.0 Course** Nov 2025
- **Advanced React (https://coursera.org/share/ad90258a82b24bcea2e6228c8960a00f) August 2023**
- **React Basics (https://coursera.org/share/17ed1374f5a096a8c011e83306188bb3) August 2023**
- **Front-End Web UI Frameworks and Tools: Bootstrap 4 (https://coursera.org/share/d48c8c533933bab29411dd9e9cfe37fa) April 2022**