OMAR MOSTAFA

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Education

German International University   **Sep 2023 - Present**
Bachelor of Computer Science

Work Experience

J.P. Morgan Chase & Co.   **2024**
Software Engineering Virtual Experience   *Remote*

- Architected and implemented a message queue integration using **Apache Kafka** to decouple frontend and backend systems, enabling asynchronous transaction processing and improved scalability for the Midas financial platform
- Designed and implemented a relational database layer using **Spring Data JPA** and **H2 database** to persist financial transactions with validation logic, including sender/recipient verification and balance checks
- Built **RESTful API** services using **Spring Boot** to integrate with external incentive calculation systems and expose user account balance queries, implementing proper HTTP client functionality and JSON serialization
- Utilized **Maven** build tools to manage project dependencies, ensuring consistent builds and pinning specific library versions for production stability

Projects

Docy - AI Documentation Generator | *docy-liard.vercel.app* | *github.com/omar-mostafa205/Docy*   **Next.js |NextAuth| Prisma | PostgreSQL**

- Developed full-stack **documentation generator** with **Google Gemini AI** and custom **AST code analysis engine**, implementing **NextAuth.js authentication** with OAuth (GitHub, Google , Gitlab)
- Architected **PostgreSQL database** with **Prisma ORM** and **tRPC** backend, implementing **indexes** on tables and **full-text search indexes** for optimized query performance
- Implemented **Next.js caching strategies** with server-side data caching and request memoization, reducing database load by 60% and improving API response times from 400ms to 80ms

Codelet - Code-to-Tutorial Platform | *codelet-ujmx.vercel.app* | *github.com/omar-mostafa205/Codelet*   **React | TypeScript | Clerk | Gemini AI**

- Built AI-powered learning platform with **Google Gemini AI** and integrated **AI chatbot** using **RAG** with conversation memory, implementing **Clerk authentication** and protected API routes
- Developed complete **dashboard** interface using **shadcn/ui** component library with React and TypeScript, featuring real-time tutorial progress tracking, repository management, and interactive data visualisations with responsive design patterns
- Implemented **Next.js caching** with server-side request memoization for AI-generated content, reducing redundant Gemini API calls by 70% and enabling instant content retrieval

Planna - AI Meal Planning | *planna-6w9g.vercel.app* | *github.com/omar-mostafa205/Planna*   **Next.js | React | TypeScript | CSS**

- Built AI-powered meal planning application with **Google Gemini AI** generating personalized daily meal plans, implementing **Clerk authentication** with secure session management and user preferences storage
- Developed type-safe backend with **tRPC**, **Prisma ORM**, and **PostgreSQL**, implementing efficient database relationships and query optimization for frequently accessed meal plans
- Created responsive UI with **React**, **TypeScript**, and **custom CSS**, featuring drag-and-drop meal scheduling, automated grocery list generation, and **Inbody analysis**

Leadership & Soft Skills

- **Problem Solving:** Break down complex technical challenges into manageable solutions
- **Self-Learning:** Independently master modern technologies through documentation and hands-on practice
- **Project Management:** Deliver end-to-end applications with effective feature prioritization
- **Communication:** Translate complex technical concepts into accessible user experiences
- **Attention to Detail:** Maintain high code quality with TypeScript strict mode and comprehensive error handling
- **Adaptability:** Quickly learn and implement new technologies to meet evolving requirements

Technical Skills

Languages: JavaScript, TypeScript, Java, SQL, HTML5, CSS3

Frontend: React, Next.js, CSS3, Responsive Design, Shadcn/ui, React Query, Zustand, Framer Motion

Backend: Node.js, tRPC, Express.js, Spring Boot, REST API, NextAuth.js, Clerk, OAuth, JWT

Databases: PostgreSQL, Prisma ORM, Spring Data JPA, Redis, Database Indexing, Query Optimization, Connection Pooling

AI Integration: Google Gemini API, OpenAI API, AI Chatbots, Prompt Engineering, AST Code Analysis, NLP

DevOps & Tools: Git, GitHub, Vercel, Docker, Postman, Apache Kafka, Maven, CI/CD

Architecture: Full-Stack Development, Type-Safe APIs, Microservices, Message Queues, Authentication Systems, Caching Strategies