Mohamed Sahnoun

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EDUCATION

National Institute of Applied Science and Technology   Tunis, Tunisia

Bachelor's degree in Software Engineering   *Grad – 2024*

Relevant Courses: Algorithms and Data structures, Web Development, UML and Design Patterns, Cryptography, Linux Systems Administration, Databases, Computational theory, Distributed Systems, Big Data, AI, DevOps, Scrum

TECHNICAL SKILLS

Proficient: TypeScript, Javascript, Python, SQL, HTML/CSS, Angular, NestJS, ElectronJS, Git, ExpressJS
Familiar: React, C/C++, Java, PHP, Hadoop, Kafka, Docker, CI/CD, AWS, GraphQL, Symfony, Spring Boot

PROJECTS

Nesty Kerberos - ⚙ | *TypeScript, NestJs, Crypto, Redis, PostgreSQL, Docker-Compose*
- Designed and implemented a secure authentication system using Kerberos security protocol from scratch, utilizing two NestJS servers. A Key Distribution Center (KDC) responsible for generating and managing tickets and then cached using Redis. And another registration service that allows actors to join the realm and securely register using Diffie-Hellman key exchange.

619 Street - ⚙ | *TypeScript, Angular 13, SCSS, NestJs, TypeORM, MongoDB, Docker-Compose*
- Created an e-commerce website for selling clothes, allowing brands to showcase and sell their products.
- Developed a comprehensive set of features including a user-friendly shopping cart, diverse filtering options, and an engaging navigation experience with singular design elements and animations for better customer satisfaction.
- Worked in a team of 3 people, utilizing Git Flow to ensure effective collaboration and created efficient workflows.

Who am I - ⚙ | *PHP, Javascript, Symfony, Twig, CSS, MVC*
- Designed, and developed a user-friendly web application for administering the Enneagram personality test.
- Employed Model-View-Controller (MVC) architecture to organize code and promote modularity, maintainability, and scalability.

EXPERIENCE

Software Engineer - ⚙   Sfax, Tunisia

L'avenu Café | ElectronJS, Angular 13, NestJs, SQLite, SCSS, TypeORM, TypeScript   *January – June 2022*
- Assigned to redesign and reconstruct a new management application due to recurring problems, such as frequent system crashes, freezing, and mediocre user experience within the existing product.
- Rebuilt a user-friendly desktop application for café management by implementing an intuitive interface for order placement, products and sub-products, with real-time bill display resulting in a **40%** increase in staff performance.
- Optimized system performance by replacing JSON files with SQLite for local storage, which cut data fetching time by **75%**. This change effectively mitigated memory overload issues, eradicating crashing and freezing problems.
- Designed an intuitive management dashboard to oversee products and sub-products. The dashboard provides options for customizing the interface and also offers insights and graphs on sales and staff performance.

Software Engineer - 📖   Hawaii, United States

Launchpad.ai | React Native, Vexflow, Flask, AMT, Midi-to-Midi alignment, Python, C++   *April – June 2022*
- Built a mobile application that assess recorded user piano performances against the sheet-music.
- Utilized Automatic Music Transcription models to convert WAV files into MIDI files with a **94.7%** F-score.
- Implemented a MIDI-to-MIDI alignment tool powered by Hidden Markov Models to match notes, identify missing and extra notes with an unparalleled **99%** accuracy.
- Designed a user-friendly interface that displays results in a color-coded digital sheet-music.
- As a pinaist, I put the app to the test by playing Fantaisie Impromptu by Chopin and was surprised to discover small errors in my performance that I had previously overlooked.

Voluntary Work

Google Developer Student Clubs (GDSC), Lead | IEEE CS chapter, Executive Board and Webmaster
- Led a team of 10 members as the GDSC Lead in organizing events, workshops, and hackathons aimed at promoting coding and software development skills among students.
- Delivered engaging lectures on cutting-edge technologies in web development and on the basics of computer vision, and artificial intelligence to over 100+ students at my university.