Mohsen Mohamed

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Technical Skills

- **Languages & Markup:** Embedded C, C++, Python, JavaScript, TypeScript, Python, HTML5, CSS3, LaTeX
- **Frameworks & Libraries:** Nuxt, Vue, React, SCSS, Tailwind, Bootstrap, GSAP, anime.js
- **Development Tools & Environments:** VSC, PyCharm, Eclipse IDE, Docker, Git
- **Robotics & Simulation Tools:** ROS Noetic, RViz, Simulink, CoppeliaSim, Gazebo, SolidWorks
- **Design Tools:** Figma, Affinity Designer, Adobe XD, Adobe Illustrator, Adobe Photoshop
- **Management Tools:** Notion, Jira, Trello

Work Experience

UI Engineer
Freelance (View Portfolio)

Nov 2017 – Present
Egypt · Remote

- Designed and developed UI components using frameworks (Nuxt, Vue, React), ensuring seamless integration with systems and automated services.
- Engineered responsive interfaces, including dashboards and complex apps, while optimizing user flows and accessibility.
- Adapted UI designs to constrained environments like WordPress and Odoo, customizing and extending front-end capabilities while maintaining performance and usability.

Odoo Website Developer
OKLENT Cloud Technologies (Company Website)

Feb 2022 – Sep 2024
Al Shorouk, Egypt · Hybrid

- Designed dynamic website snippets in the Odoo website module using JavaScript, Python, and XML with integration ability with third-party services.
- Developed responsive, RTL-compatible front-end interfaces with Bootstrap, integrating external JavaScript libraries to improve UX through real-time data updates.
- Automated Docker-based deployment pipelines to ensure clean CI/CD cycles.

Graphic Designer
Fintech Industrial (LinkedIn)

May 2021 – Oct 2023
Texas, United States · Remote

- Created high-fidelity digital assets, including logo concepts, interactive data charts, marketing collateral, and email templates, ensuring brand consistency across platforms.
- Documented design-to-development workflows, providing structured handoff files and design sprints to maintain UI/UX integrity.
- Minor software development in React.js.

Competitions & Activities

Embedded & Robotics Engineer
University Graduation Project (More Info)

Jul 2023 – Aug 2024
Badr, Egypt · On-site

- **Developed a Modular Autonomous System** for an electric vehicle, achieving level three autonomous capabilities using ROS (Robot Operating System) on Ubuntu 20
- **Implemented Navigation Stack:** Integrated ZED2 stereo camera for 3D object detection, outdoor map-

ping, and positional tracking; utilized GNSS for long-distance localization
- **Trained AI Models** from Roboflow on Kaggle platform to enhance object detection capabilities
- **Integrated Ultrasonic Sensors** to detect nearby objects and cover areas outside the camera's field of view, serving as a fallback for the AI system in the ROS layer
- **Monitoring Dashboard:** Developed using HTML, JS, and CSS to track vehicle state (position, driving mode) and view camera feeds. User can also send navigation goals directly to the vehicle
- **Vehicle Control:** Added steering control using a closed-loop stepper motor and managed actuator operations via microcontrollers, with communication between two MCUs through CAN bus
- **Obstacle Handling:** A multi-layer safety mechanism where the AI handles primary object detection, and the embedded layer, with ultrasonic sensors, ensures detection in cases where the AI fails
- **Achieved Recognition:**
  - Secured **1st place** out of **60+** teams in Valeo Mentorship program (LinkedIn Post)
  - Secured **6th place** out of **900+** teams in ISEIC 2024 (LinkedIn Post)
  - Received financial aid from ITAC Graduation Project Support of more than **20K EGP** (PDF File)

Autonomous Driving Software Engineer
Mar 2024 - Aug 2024

Electric Vehicle Rally (EVER Page) (LinkedIn Post)   Badr, Egypt · Remote

- **Simulation Environment:** Developed and simulated autonomous driving scenarios in CoppeliaSim, ranging from simple single-lane tracks to complex environments with cones and pedestrian crossings
- **ROS Integration:** Controlled vehicle via ROS topics for steering, throttle, and braking; processed sensor data from a mono camera and Velodyne LiDAR
- **Control Systems:** Employed Stanley Controller using Simulink MATLAB blocks for lateral vehicle control

Featured Work

Pilot Dispatch App (Figma File)

A pilot app designed to modernize the ticketing process for pilot associations, replacing paper-based workflows with a user-friendly digital solution.

Standard Financial (Case Study)

An investment research platform that provides a large suite of financial data, enabling investors of all types to access professional investment research.

Saudi Arabian Hydroponics (Website)

A Saudi planter specializing in modern techniques of cultivation without soil (Haedroponik) and the establishment of agricultural greenhouses using sophisticated modern techniques.

Intron Digital (Website)

A small indie video game studio that hopes to bring lots of memorable experiences to players while making games they love.

Education

Egyptian Russian University
Sep 2019 – Jun 2024

B.Sc. of Mechatronics and Robotics Engineering

Graduation Project: Implementation of Level Three Autonomous Driving on Electric Vehicle