



Michele Elia

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Languages

Italian: **Native** English: **B2** Spanish: **C1**

Full-stack developer

Availability for remote work and hybrid contracts

Tech Stack

Languages

• PHP • HTML • CSS •
PostCSS • Less •
JavaScript • TypeScript •
Python • Dart

Frameworks

• Laravel • Filament •
Blade • Livewire • Tailwind
CSS • Vue.js • React •
Angular • Flutter

Databases

• Mysql / MariaDB •
PostgreSQL • Firebase

DevOps/Tools

• Docker • Git • Linux

Bio

Software Developer with a solid methodological foundation gained from engineering studies, focused on designing reliable and scalable systems. I work on end-to-end solutions with Laravel, Vue.js, Python, and IoT technologies, handling architecture, APIs, data pipelines, and hardware integrations. I have collaborated with universities, research centers, and companies on complex projects including remote device control, distributed automation, and computer vision pipelines. I combine analytical rigor, systemic vision, and the ability to transform complex technical requirements into robust, maintainable, and long-term oriented software.

Experience

Jan 2022 - Present



Business Automation & Web Development for Sustainability Consulting

Carbodel • Software Developer

- **Internal project management and time tracking tool for consultants** : Development of a Laravel application for managing environmental consulting projects, featuring time tracking, custom reporting, and document management.
- **Web Development** : Landing Page Design and Development for lead generation and conversion
- **Process Automation & Data Management** : Workflow Automation with Google Apps Script, Lead Management Unification on Google Workspace, Sustainability Data Pipeline Creation for GHG Protocol
- **Client Relations & Requirements Analysis** : Client Data Collection and Structuring for Carbon Footprint Assessment, Compliance Assurance
- **Environmental Consulting & Compliance** : Carbon Footprint Assessment under ISO 14064 and GHG Protocol, Scope 1–3 Emissions Reporting Support

Tech stack: Laravel, Filament, Google Apps Script, Google Workspace, HTML/CSS/JS, Tailwind CSS, Vue.js, ISO 14064, GHG Protocol, Carbon Accounting, Git, Linux,



Centralized IoT System for Irrigation Automation

Università degli studi di Bari • Software Developer

- **Application Development** : IoT Architecture Evolution from Distributed to Centralized, Device Logic Migration to Laravel Application Server
- **Database Design** : Database Schema and Backend Structure Design for Remote Valve Control, Telemetry Storage, and System Configuration
- **RESTful API Development** : RESTful API Implementation for LoRaWAN Gateway Communication, Command Dispatch, and Telemetry Collection

Tech stack: Laravel,Filament,MySQL,REST API,Git,Linux,

Sep 2024 - Sep 2025



Computer Vision for Early Detection of Xylella fastidiosa Vectors – PRIN2022 Project

Consiglio Nazionale delle Ricerche • Software Developer

- **Dataset Engineering** : Dataset Re-annotation and Expansion, Annotation Conversion Tools Development (Binary Mask to YOLO) with Automated Validation
- **Hardware Optimization** : Multi-camera Setup and Optical Configuration Analysis for Field Image Acquisition Optimization
- **ROS2 Integration** : Multispectral Camera Integration into ROS2 Pipeline
- **Field Validation** : System Deployment and Testing in Real-world Conditions

Tech stack: Python,Yolo,OpenCV,ROS2,Label Studio,Git,Linux,

Jun 2024 - Feb 2025



Dolphin Recognition Platform Development

Jonian Dolphin Conservation • Software Developer

- **Backend Development** : Laravel Application Implementation, OTP Authentication Integration, Role-based Access Control, File Upload System Development with MIME Validation and Storage Management
- **Computation Server Integration** : C++ Algorithm Integration via REST Endpoints and Asynchronous Job Queues
- **Database Design** : PostgreSQL Data Model Design, Query Optimization with Indexing and Materialized Views, Schema Migration Management with Laravel
- **Frontend Development** : Responsive Interface Creation with Livewire and Blade, Modular Components for Image Upload, Admin Dashboards, and Match Result Visualization, TailwindCSS Application, Performance Optimization with Code Splitting and Lazy Loading

Tech stack: Laravel,Livewire,Blade,Tailwind CSS,PostgreSQL,Docker,Linux,



Distributed IoT System for Irrigation Automation with Embedded Algorithm

Università degli studi di Bari • Software Developer

- **Embedded Firmware Architecture** : Firmware Development in C/C++ on ESP32 with Event-driven Irrigation Control, State Machine Implementation for Solenoid Valves via PWM, Power Management Optimization
- **LoRaWAN Communication Stack** : LoRaWAN Class A Protocol Implementation on RFM95 (SX1276), Uplink Telemetry and Downlink Command Management, Duty-cycle and Retry Logic Optimization
- **Sensor Algorithmic Calibration** : Sensor Calibration Pipeline Design, Temperature Drift Correction, Metrological Validation, Runtime Recalibration for Field Capacity

Tech stack: Laravel,Vue.js,MySQL,REST API,Git,Linux,

Apr 2020 - Oct 2021



Decision-Support Systems Development for Precision Agriculture

Princess Limited • Software Developer

- **Backend and Database Development** : RESTful API Development in Laravel, MySQL Database Schema Design for Precision Agriculture Decision Support
- **Frontend Development** : Interactive Dashboard Creation in Vue.js with Real-time Crop Health Metrics, Irrigation Schedules, and Nutrient Data
- **Weather API Integration** : Third-party Weather API Integration for Automated Climate Data Collection
- **Data Analysis and Optimization** : Automated Agronomic Report Generation with Charts and Data Visualizations
- **Technical Requirements Analysis** : Collaboration with Agronomists for Fertigation, Phenological Cycle, and Crop Management Requirement Translation into Software Specifications

Tech stack: Laravel,Vue.js,Tailwind CSS,HTML/CSS/JS,MySQL,REST API,Git,Linux,

Education

2016 - 2020



Master Degree LM, Mechanical Engineering

Politecnico di Bari

Grade 110L/110

2019 - 2020



ERASMUS++

Universidad de Oviedo

2018 - 2019



ERASMUS++

Budapest University of Technology and Economics

2012 - 2016



Bachelor Degree L1, Mechanical Engineering

Politecnico di Bari

Grade 103/110