

# THOMAS EMANUEL BERMÚDEZ MORA

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## Profile

Full-stack developer specializing in web applications with strong UI/UX focus and machine learning expertise in computer vision. Contributed to award-winning projects at Cannes Lions Festival and Grupo AUGÉ-UCR. Software Engineering student at Universidad Cenfotec (GPA 4.0, 100% excellence scholarship) committed to code craftsmanship and continuous improvement.

## Experience

**Link Agency** San José, Costa Rica / Remote  
**Developer** Jun 2023 – Present

- Maintained and implemented WordPress sites, prioritizing responsive UI/UX across multiple client projects.
- Integrated custom PHP functionalities to reduce plugin dependencies and improve code maintainability.
- Optimized MySQL database structures for seamless integration with in-house server environments.
- Developed website for a campaign that earned a Silver Lion at the 72nd Cannes Lions Festival (Public Relations – Market Disruption) among 1,531 global competitors.
- Served as primary developer for a custom web application that replaced Excel workflows, eliminated 100% of manual data entry, automated work order processing, and enabled real-time tracking with visual reporting.

**ISAAC Project (Freelance for UCR undergraduates)** San José, Costa Rica / Remote  
**Machine Learning & Backend Developer** Mar 2023 – Nov 2023

- Developed backend/ML infrastructure for the ISAAC Project, awarded by the 2022 Program of Technological Innovation (AUGÉ-UCR Group), enabling UCR students to graduate with honors based on project results.
- Generated and validated wildlife image datasets from camera trap data to train species classification models.
- Trained computer vision models in Python (Google Colab, TensorFlow/PyTorch), achieving 98.22% test accuracy with only 11 errors out of 618 samples.
- Maintained precision scores exceeding 93% for frequent classes with strong recall on challenging categories and robust handling of unseen species.
- Designed MySQL database schemas for project, user, and species data management.
- Implemented Flask REST APIs for authentication, projects management, and species reclassification workflows.
- Deployed system to AWS with cost-optimized architecture, balancing performance and operational expenses.

**MobyDyg** Heredia, Costa Rica / Remote  
**Full Stack Software Engineer** Mar 2022 – Nov 2022

- Designed and implemented a user management system for e-commerce staff portals using Angular, TypeScript, SCSS, and AWS Cognito, integrating responsive front-end modules with AWS Amplify and SDK for secure authentication and role-based access control.
- Rebuilt, normalized and migrated the company's MySQL database, ensuring compliance with relational best practices and improving query efficiency, data integrity, and security.
- Collaborated in team-based and pair programming environments to accelerate feature delivery and improve code quality.

**Cenfotec University** San José, Costa Rica / Remote  
**Machine Learning & Computer Vision Intern** Jan 2022 – Present

- Developed an ALPR system using YOLOv5, Flask API, and Google Colab, achieving 96% accuracy in license plate detection and 77% in vehicle detection.
- Web scrapped an experimental dataset of 942 Costa Rican license plates to improve local model performance.
- Implemented a multi-stage detection pipeline with OCR preprocessing to enhance text recognition accuracy.
- Built and deployed a cloud-based API service for image uploads, detection processing, and plate text extraction.

- Authored an academic research paper detailing methodology, experimental results, and recommendations for system optimization.

### **3Pillar Global**

San José, Costa Rica / Remote

#### **Software Engineering Intern**

Oct 2021 – Jan 2022

- Prototyped responsive web application interfaces in Figma and implemented them with React.js, ensuring consistency with the client's design system.
- Designed SQL Server database and implemented backend features using C# and ASP.NET MVC for maintainability and scalability.
- Collaborated through pair programming and code reviews to validate functionality and improve code quality.

## **Education**

### **Cenfotec University**

San José, Costa Rica

Bachelor of Software Engineering. GPA 4.0

Jan 2022 - Dec 2025

Honors: Holder of a 100% scholarship for academic excellence.

### **Cenfotec University**

San José, Costa Rica

Machine Learning with Python

Nov 2022 - Dec 2022

### **Don Bosco Technical High School**

San José, Costa Rica

High School Level Technician in Software Development

Feb 2019 - Dec 2021

## **Skills**

**Technical:** Python, JavaScript, TypeScript, PHP, C#, HTML, CSS/SCSS • React.js, Angular, Flask • MySQL, SQL Server • WordPress • AWS • TensorFlow, YOLO, Google Colab • Git, GitHub • Figma

**Soft:** Empathy, Resilience, Self-Control, Adaptability

**Languages:** Spanish (Native), English (C1 - TOEFL iBT)