

# MARIA DIAZ ALBA

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## INTERESTS

Machine Learning, Deep Learning, Visual Foundation Models, Multimodal Language Models, Gen AI

## EDUCATION

- Florida International University**  
*Master of Science in Applied Artificial Intelligence & IoT*, GPA: 3.82/4.0

Aug 2024 – July 2025 (expected)  
Miami, FL, USA

  - Relevant Coursework: Machine Learning | Deep Learning | Data Engineering | Python Programming | Generative AI | Embedded AI
  - Gained expertise in deploying AI solutions for training, fine-tuning, and inference in IoT applications, leveraging techniques from ML, DL, and GenAI.
- Universidad de Alcalá de Henares**  
*B.Sc. in Forensic Sciences and Technologies*, GPA: 8.2/10.0

Sep 2020 – May 2024  
Madrid, Spain

  - Relevant Coursework: Digital Investigation on Mobile Devices and Smartphone Apps | Cybersecurity | Procedural and Criminal Law
  - Thesis: *OSINT Tools for Social Media Investigations* under the supervision of [Prof. Manuel Sánchez Rubio](#).
- Université de Lausanne**  
*B.Sc. in Forensic Sciences and Technologies*, GPA: 3.90/4.0

Aug 2023 – Feb 2024  
Lausanne, Switzerland

  - Exchange student for Fall 2023
  - ERASMUS+ Program (Scholarship)

## EXPERIENCE

- TRC Informatica S.L**

Mar 2024 – Jul 2024  
Madrid, Spain

Cyber Intelligence Internship / AI Solutions Researcher

  - Worked with cyber intelligence team to implement security measures based on threat hunting and leak detection.
  - Featured Project: Credential Risk Assessment Tool**
    - Led research and development of an AI-driven tool to assess risk levels for credentials detected in Telegram data leaks. Applied machine learning algorithms to create a predictive model and deployed it in a custom web application for graphical risk assessment, using Python as main language.
    - Enhanced security alerts accuracy, warning of around 20 leaked credentials daily with their severity score, prioritizing analysis and boosting evaluation efficiency on 80%.

## RESEARCH PROJECTS

- AI-Driven Biometric Intelligence: Gender Prediction via CNN-Based Fingerprint Analysis**

2024

  - Explored the application of Convolutional Neural Networks (CNNs) for gender classification from fingerprint images.
  - Designed deep learning architectures to uncover patterns that distinguish male and female fingerprints, offering potential applications in forensic science and biometric security.

## CONFERENCES

- Speaker at CNN-CERT (National Cryptologic Center) Cyberdefense Conference**

Nov 2024  
Madrid, Spain

"Development of a Telegram tool for detecting exfiltrated passwords" - TRC
- Speaker at AI-Enabled Forensic Investigations Network in Digital Sciences Conference**

May 2025  
Miami, USA

"AI-Driven Biometric Intelligence: Gender Prediction via CNN-Based Fingerprint Analysis" - FIU

## VOLUNTEERING AND SERVICE

- Math & Chemistry Teacher**

2020 – 2024  
Madrid, Spain

Independent Tutoring

  - Tutored high school students in chemistry and math, boosting their conceptual understanding and problem-solving skills. Successfully guided students to double their grades.

CERTIFICATES	
<b>Azure AI Fundamentals (AI-900)</b> Microsoft Certified	Dec 2024
<b>Azure Big Data (DP-900)</b> Microsoft Certified	Feb 2025

TECHNICAL SKILLS	
<b>Programming Languages:</b> Python, SQL, MATLAB	
<b>Libraries:</b> TensorFlow, PyTorch, scikit-learn, Keras, NumPy, PySpark, Pandas, Matplotlib	
<b>Software:</b> Microsoft Office (Word, Excel, PowerPoint), Power BI, Tableau, GitHub, VS Code, ChatGPT, JupyterNb, L <sup>A</sup> T <sub>E</sub> X	
<b>Hardware:</b> Raspberry Pi, Arduino	

LANGUAGE PROFICIENCY	
<b>English</b> (fluent), <b>French</b> (advanced), <b>Spanish</b> (native)	

Last updated on May 8, 2025. Certificates, references and transcripts available upon request.