

IAN PORTO E MELLO

Brasília, Federal District, Brazil

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OBJECTIVE

To work as a **Machine Learning Engineer, Computer Vision Engineer** or **Data Engineer**, applying advanced AI, data engineering, and data processing techniques to develop robust, efficient, and interpretable systems for real-world applications.

PROFESSIONAL SUMMARY

AI and Data Engineer with strong experience in **Machine Learning, Computer Vision, and Data Engineering**, currently pursuing an M.Sc. in Computer Science at the **University of Brasília (UnB)** **focused on Point Cloud and Mesh Quality Assessment**. Experienced in the full lifecycle of AI systems—from data collection and preprocessing to model deployment and monitoring. Proficient in **PyTorch, TensorFlow, Pandas, OpenCV, Open3D, Python, SQL**.

Combines technical rigor with a product-driven mindset, optimizing for scalability, latency, and cost.

PROFESSIONAL EXPERIENCE

Banco do Brasil *Brasília, DF — Mar 2024 – Present*
IT Systems Analyst

- Oversee nationwide IT operations, ensuring real-time visibility into the performance and availability of equipment across hundreds of banking branches.
- Design and maintain internal **data pipelines** and **relational databases** (PostgreSQL, SQL Server) to track hardware lifecycles, configuration states, and incident logs.
- Develop **dashboards and data science models** for predictive maintenance, capacity planning, and crisis detection using Python, Pandas, and visualization tools.
- Integrate heterogeneous data sources to support decision-making and automate field monitoring tasks, improving response time and operational reliability.
- Coordinate with infrastructure and analytics teams to identify anomalies, mitigate failures, and ensure compliance with corporate SLAs.
- Participate in **incident response and crisis management**, using data-driven insights to prioritize repairs, forecast impact, and maintain business continuity during outages.
- Lead initiatives in process automation, reporting standardization, and data quality governance across distributed environments.

CENSIPAM - Ministry of Defense *Brasília, DF — Sep 2021 – Dec 2023*
Machine Learning Engineer

- Developed and maintained **machine learning systems** for autonomous environmental monitoring of the Amazon region.
- Designed scalable **data ingestion and preprocessing pipelines** for satellite, meteorological, and IoT sensor data.
- Trained and validated **temporal classification models** for early detection of forest fires under varying environmental conditions.
- Integrated model outputs into operational dashboards to support decision-making, emergency alerts, and sustainability analysis.

- Collaborated with multidisciplinary teams to ensure the reliability, interpretability, and maintainability of deployed AI solutions.

UnB Internet of Things (UIoT) Research Group *Brasília, DF — Apr 2021 – Jan 2023*
Undergraduate Researcher – Computer Vision & Embedded AI

- Conducted research on **computer vision systems** for crowd detection and behavior monitoring using real-time video streams.
- Designed and implemented **object detection and pattern recognition pipelines** with Python, OpenCV, and TensorFlow.
- Built **embedded AI architectures** operating on IoT and Fog Computing environments for edge-based image analysis and event classification.
- Developed algorithms for **social distancing and density estimation**, integrating image processing with sensor fusion data.
- Co-authored academic publications on **visual analytics, edge intelligence, and collaborative perception systems for IoT networks**.

EDUCATION

University of Brasília (UnB) *Feb 2025 – Feb 2027*
M.Sc. in Computer Science
Research in Point Cloud and Mesh Quality Assessment (PCQA/MQA).

University of Brasília (UnB) *Jan 2017 – Dec 2023*
B.Sc. in Mechatronics, Control and Automation Engineering

TECHNICAL SKILLS

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- **AI/ML Frameworks:** PyTorch, TensorFlow/Keras, Scikit-Learn
 - **Data Engineering:** Pandas, NumPy, SQL, PySpark, Airflow
 - **3D & Computer Vision:** OpenCV, Open3D, Point Cloud/Mesh
 - **Programming:** Python, C, C++, Rust
 - **Soft Skills:** Communication, Interdisciplinary collaboration, Adaptability, Product mindset

LANGUAGES

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- **Portuguese:** Native
 - **English:** Fluent (Cambridge C1 Advanced or above – CEFR)

PUBLICATIONS

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- *Sistema de aprendizado de máquina para tipificação de incêndios florestais na Amazônia com série temporal*
(Machine Learning System for the Typification of Amazon Forest Fires Using Time Series Data)
 - *Sistema para a identificação de aglomerações operando em Redes IoT e Fog Computing*
(System for the Identification of Crowds Operating on IoT and Fog Computing Networks)
 - *Sistema monitor de aglomerações baseado em reconhecimento de padrões e cálculos de distanciamento social operante em rede IoT estruturada em Fog Computing*
(Crowd Monitoring System Based on Pattern Recognition and Social Distance Estimation in IoT Networks Structured with Fog Computing)