M. GARNIER ANATOLE

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SUMMARY

AI Engineer specializing in computer vision with a strong background in developing and optimizing advanced AI models. Successfully implemented real-time segmentation solutions in robotics and archaeological applications, significantly enhancing accuracy and performance. Experienced in R&D and collaborative projects, leveraging Python, TensorFlow, and OpenCV to create tailored AI pipelines.

EDUCATION

Université de Bordeaux — **2023 - 2025**
Master, Artificial Intelligence

Université de Bordeaux — **2020 - 2023**
Bachelor, Computer Science

PROFESSIONAL EXPERIENCE

LaBRI & Pollen Robotics — **2025 - Present**
Research and Development Engineer

- Developed a real-time object segmentation module for robotic prosthetics by integrating AI modeling techniques and leveraging Python for optimized performance.
- Utilized an attention mechanism in Fast SAM to enhance precision and reduce latency, applying CNN-based approaches to bolster segmentation quality.
- Achieved segmentation in 12 ms per image, demonstrating performance metrics relevant to real-time inspection and factory-level applications.
- Focused attention on generating precise masks within bounding boxes, ensuring robust model performance in demanding operational environments.

Université de Bordeaux & Argus — **2024 - 2025**
Application Development for Object Segmentation

- Engineered an application for detecting pollinating insects by incorporating object detectors and semantic segmentation techniques using Python.
- Implemented a YOLO model for real-time segmentation and tracking, supporting inspection-style tasks with open source methodologies.
- Improved detection accuracy by over 60% for flowers and insects compared to the initial proof of concept, demonstrating effective model optimization relevant to factory inspection challenges.

Université de Bordeaux & Archéovision — **2024**
Sequential Segmentation Application Development

- Designed a segmentation application for recognizing blue pigments on ancient stones using a U-Net network and Dice Loss to enhance model precision.
- Applied advanced semantic segmentation techniques and AI modeling strategies to support detailed archaeological analysis.
- Enhanced accuracy by 30% compared to the initial proof of concept, showcasing the ability to optimize model performance for specialized image analysis tasks.

TECHNICAL SKILLS

- **Deep Learning & AI**: PyTorch, Ultralytics, YOLO, SAM, U-NET, AI Modeling Techniques, Semantic Segmentation, Object Detectors, Numpy, SciKit Learn
- **Image Processing**: OpenCV
- **Programming Languages**: Python, C, SQL
- **Databases**: Design, Structuring, Querying
- **Interests**: Sports, Volley, Football, Handball, Travel, Tokyo, Londres, Munich, Driver's license

LANGUAGES

- French (Native)
- English (Fluent)
- German (Intermediate)