Jade Choghari

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My work focuses on scaling robot learning through simulation and transformer-based policies. I am part of the LeRobot team at Hugging Face, where I build open-source tools for robotics and contribute to make multimodal AI more accessible. For instance, I lead the development of a new robotics policy called DOT, and I lead the foundation of HF's new simulation environment for robotics. I am a co-author of LeRobot, which is open-source and has received over 15K stars on GitHub so far.

Experience

Hugging Face — Paris, France
ML Engineer – Robotics — *Feb 2025 – Present (4 mos)*

- Led the integration of the **LIBERO VLA benchmark** into the LeRobot framework, enabling multi-task evaluation across 200+ manipulation tasks and establishing a new baseline for VLA policy comparison.
- Designed and implemented a **multi-dataset training infrastructure** for **SmolVLA**, supporting scalable pretraining across heterogeneous robot datasets and streamlining evaluation pipelines.
- Developed a scalable, physics-based **simulation and data generation stack** with a modular Gym-compatible API for reinforcement and imitation learning.
- Implemented the **DOT Policy** (decoder-only transformer) for robotic control, achieving state-of-the-art performance on 91% of benchmark tasks.
- Contributed core motion planning components including **inverse kinematics**, trajectory interpolation, and joint-space control for simulation and real-world deployment.

Stealth Startup — San Francisco, USA
ML Engineer — *Jan 2025 – Feb 2025 (2 mos)*

- Engineered distributed ML evaluation pipelines for lip reading; deployed automated model benchmarking infrastructure.

Hugging Face — Remote
ML Engineer Fellow – Transformers Team — *May 2024 – Present (1 yr)*

- Developed vision-language support and multi-modal functionality within the Hugging Face Transformers ecosystem.
- Implemented RT-DETR v2 object detection model; beat YOLO in latency and accuracy on standard COCO benchmarks.
- Built a high-speed text detection pipeline and added processors for models such as RobustSAM, Ferret-UI, and VidToMe.

Conrad School of Entrepreneurship — Waterloo, Canada
Project Lead – AiChatbot Jado — *May 2024 – Aug 2024 (4 mos)*

- Founded G12Uni, an AI platform for university admissions, reaching 40K+ students monthly; led product and ML development for its LLM-powered chatbot, Jado.

Qatar Computing Research Institute — Doha, Qatar
Research Intern – Autonomous Driving — *May 2023 – Aug 2023 (4 mos)*

- Designed and trained CNN-based lesion detection pipeline using synthetic augmentation.
- Constructed graph-based urban mobility framework with real-time Google Maps integration for autonomous navigation research.

Selected Projects

These include research models and systems I helped implement or integrate into the Hugging Face `transformers` ecosystem:

Genesis – Universal physics simulation platform for robotics and embodied AI, designed for high-speed data generation and photorealistic rendering.

DOT Policy – Transformer-based policy for robotic control, achieving SOTA on multiple tasks.

RobustSAM – Text-promptable segmentation model co-developed with Snap, robust to low-quality images.

Ferret-UI – Multimodal UI understanding model from Apple for referring and grounding in mobile interfaces.

VidToMe – Text-to-video generation model from SJTU, integrated into `diffusers`.

VoiceRestore, **OpenMusic**, **Fast-Text Detection** – Advanced models in speech enhancement, audio generation, and vision-language tasks.

Education

University of Waterloo — Waterloo, Canada
Bachelor of Computer Science and Financial Management

- Relevant Courses: CS480 (ML), CS486 (AI), MIT Matrix Calculus, Group Theory

Skills

Languages: Python, Swift, JavaScript, C++, SQL

Frameworks: PyTorch, Transformers, TensorFlow, JAX, Docker

Specialties: Transformers, Diffusion Models, Robotics Simulation, LLMs, Vision-Language Modeling

Tools: Git, Gradio, Colab, ONNX, torch.compile

Languages Spoken: English, French