

Alhussein Jamil

Software Engineer – AI Systems, Accelerators & Robotics



✉ alhussein.jamil@gmail.com 📞 +33 6 50 18 55 35 📍 Paris, France
🌐 github.com/alhussein-jamil 🌐 alhusseinjamil.com 🌐 alhussein-jamil

École Polytechnique graduate developing software for optical AI accelerators, from PyTorch execution and graph lowering to runtime logic, kernels, and ISA-level command generation. Background in reinforcement learning, robotics, and computer vision.

Professional Experience

Arago *Paris, France*
Software Engineer – AI Accelerator Stack *Oct. 2024 – Present*

- Developed core software components for a custom optical AI accelerator focused on matrix multiplication.
- Built a PyTorch-to-hardware execution path: graph lowering, tensor transformation, command generation, and runtime orchestration.
- Implemented low-level kernels and ISA-level execution flows for a proprietary multi-core accelerator architecture.
- Integrated compiler, runtime, driver, and hardware-facing components into end-to-end ML accelerator demos.

EyePick *Paris, France*
Machine Learning Engineer *Sept. 2023 – Sept. 2024*

- Developed computer vision pipelines for real-time robotic automation in industrial, agricultural, and culinary environments.
- Built image-based anomaly detection and classification systems for quality-control applications.
- Adapted ResNet-based models as an alternative to YOLO-based detection pipelines under licensing constraints.

Wandercraft *Paris, France*
Reinforcement Learning Intern *Mar. 2023 – Sept. 2023*

- Trained reinforcement learning control policies for the Cassie bipedal robot and the Eve exoskeleton.
- Used NVIDIA Isaac Gym and Ray RLLib for parallel simulation and distributed policy training.
- Worked on sim-to-real transfer using imitation learning, domain adaptation, and visual adaptation methods.

Poppins, formerly Mila *Paris, France*
AI Algorithms Intern *Jun. 2022 – Sept. 2022*

- Implemented an adaptive difficulty algorithm for a therapeutic game designed for dyslexic children.
- Used clustering and gameplay metrics to adjust difficulty dynamically without explicit child feedback.
- Contributed to algorithmic development and game-side integration.

Teaching

- **X-HEC Master:** Guest lecturer in machine learning for engineering and business master's students.
- **Lycée Saint-Louis:** Oral examiner in mathematics for CPGE students.

Technical Skills

Programming: Python, C++, C, OCaml, Java, C#, SQL

AI Systems: PyTorch execution, graph lowering, runtime design, custom ISA, kernels, multi-core execution

ML: Computer vision, reinforcement learning, imitation learning, sim-to-real, model deployment

Robotics: NVIDIA Isaac Gym, Ray RLLib, robotic control, industrial automation, VR robot interfaces

Tools: Linux, Git, Docker, debugging, hardware/software integration

Education

École Polytechnique *France*
Engineering Degree – MSc equivalent *2020 – 2024*

- Mathematics, physics, statistics, machine learning, and robotics.

Sorbonne University – UPMC *France*
Master 2 – Intelligent Systems *2023 – 2024*

- Developed a VR interface for controlling and visualizing interactions with a Franka Emika robotic arm.

Lycées Louis-le-Grand & Buffon *France*
*CPGE – MPSI → MP** *2018 – 2020*

- Intensive preparatory classes in mathematics and physics.

Projects & Awards

- **CassieRobot Control:** RL environment and control policy using Ray RLLib. ([GitHub](#))
- **NMT with Attention:** Implementation of Bahdanau attention for neural machine translation. ([GitHub](#))
- **Scientific Olympiads:** 3x Silver Medalist – Syrian National Olympiads in Mathematics, Informatics, and Robotics.

Languages

- **Arabic:** Native
- **French:** Bilingual
- **English:** Bilingual
- **Spanish:** Intermediate

Interests

MMA • Puzzles • Violin • Climbing