

# Smail Ait Bouhsain

## AI Research Scientist, PhD

Paris, France | [smail.aitbouhsain@gmail.com](mailto:smail.aitbouhsain@gmail.com) | +33-6 98 91 95 63

[linkedin.com/in/smail-ait-bouhsain](https://www.linkedin.com/in/smail-ait-bouhsain) | [scholar.google.com](https://scholar.google.com) | [smail8.github.io](https://smail8.github.io)



### Professional summary

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PhD in AI and Robotics from LAAS-CNRS, with 6 publications in top-tier conferences (ICLR, ICRA, IROS) and real-world R&D experience at Logitech and OCP Group, I have proven expertise in Machine Learning/Deep Learning, embodied AI, and multi-agent systems, as well as a strong background in Python, C/C++ and Pytorch.

### Core Skills

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- **Programming:** Python, C/C++, PyTorch, Transformers, Docker, Git, Jupyter
- **Machine Learning:** Predictive Models, Generative Models, Representation Learning, Multimodal Learning, Data Curation/Processing, Feature Engineering, Model Training, Experimental design, Model Evaluation
- **Robotics:** ROS, Planning, Perception, Control, Manipulation, Sim-to-Real, Reinforcement Learning
- **Soft Skills:** Communication, Teamwork, Public Speaking, Project Management
- **Languages:** English (C1), French (C1), Arabic (C1), Spanish (A2)

### Experience

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**Postdoctoral Researcher**, Inria, Paris, France. **Jan 2026 – Present**

- Developing Real-to-Sim methods for large scale 3D environment generation and end-to-end RL.
- Designing 3D-VLM and VLA-based approaches for embodied perception and task and motion planning

**Machine Learning Engineer**, Logitech, Lausanne, Switzerland. **Sept 2020 – Mar 2021**

- Developed multimodal deep learning models for emotion recognition in streamers; achieved +6% over SOTA.
- Improved model performance by 14% via multimodality fusion (Video, Audio, Physiological signals).

**Robotics Engineer**, OCP Group, Ben Guerir, Morocco. **Mar 2020 – Aug 2020**

- Designed a high-fidelity autonomous mining truck simulation during COVID-19 shutdown.
- Developed kinematically constrained trajectory planning (Hybrid A\*) and path tracking (NMPC) algorithms.
- Coordinated with data science, cartography, technical and sales teams (20+ collaborators).

**Deep Learning Researcher**, VITA-Lab EPFL, Lausanne, Switzerland **Sept 2019 – Feb 2020**

- Proposed a deep model for pedestrian future positions and intentions prediction for Autonomous vehicles.
- Outperformed state-of the art by 4%; Work published in the hEART 2020 conference.

### Education

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**National Center for Scientific Research (LAAS-CNRS)**, PhD in Computer Science **Oct 2021 – Apr 2025**

- **Thesis:** Deep Learning Methods for Multi-Robot Task and Motion Planning
- Jury praised originality and real-world impact; recommended for European PhD prize.
- 5 papers in ICLR, ECAI, ICRA, IROS; Proposed and supervised 6-month internship; Taught ML at INSA.

**Swiss Federal Institute of Technology (EPFL)**, MSc in Robotics (GPA: 5.2/6) **Sept 2018 – Mar 2021**

- **Major:** Intelligent Systems, ML and Robotics | **Minor:** Management of Technology

**Swiss Federal Institute of Technology (EPFL)**, BSc in Micro-Engineering **Sept 2014 – Aug 2018**

### References

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- **Thierry Siméon**, research director, LAAS-CNRS | [simeon@laas.fr](mailto:simeon@laas.fr)
- **Rachid Alami**, research director, LAAS-CNRS | [alami@laas.fr](mailto:alami@laas.fr)