Clodéric Mars
AI Product Engineer & Tech Leader

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I specialize in **human-AI collaboration**, with one hand in leadership and the other in development. The products I built have:

* empowered artists to **direct autonomous characters** in movies,
* enabled engineers **optimize energy & transportation infrastructures**, and
* assisted instructors in delivering **personalized training simulations**.

**Key skills:** Applied Artificial Intelligence, Technical leadership, Software architecture, Program management, B2B presales & project management, Technology transfer, Distributed systems, Cloud infrastructure, MLOps, Full-stack development, Written and oral communication, French (native), English (full professional proficiency).

# Experiences

**VP of Engineering -** [**AI Redefined**](https://www.ai-r.com) **since 2021/02** *Montréal, Canada*

* Hired and directed a distributed team of 16 engineers and researchers, achieving 40% annual growth. Introduced OKR- and Agile-inspired tools and processes for priority alignment, resource allocation, and feedback, supporting business objectives while fostering a culture of empowerment and collaboration.
* Transitioned the team’s focus from technological prototypes to enterprise AI products, adopting an open-core SaaS approach that generated ~$1.5M ARR.
* Led the design and training of decision-making AI agents collaborating with humans, leveraging deep reinforcement learning, large language models, and symbolic AI. Applied evidence-based, data-driven methodologies to solve complex real-world problems, enabling successful AI product deployments and contributing to 9 peer-reviewed publications and 3 patents.
* Managed collaborations across industries including aerospace and defense (e.g. [Thales](https://www.thalesgroup.com/), [CAE](https://www.cae.com/), and [NAV CANADA](https://www.navcanada.ca/)) ; energy (e.g. [RTE](https://www.rte-france.com/)) ; manufacturing (e.g. [Renault](https://www.renaultgroup.com/)) ; and academia (e.g. the [University of Alberta](https://www.ualberta.ca/), [MILA](https://mila.quebec/), and [IRT SystemX](https://www.irt-systemx.fr/)).

**Skills:** Reinforcement learning, Deep learning, Large Language Models, Simulation, Python, Go, Javascript, Kubernetes, AWS, Azure.

**Freelance AI engineer - AI Redefined from 2020/08 to 2021/01** *Paris, France*

*Starting position at AI Redefined as a freelancer before moving to Canada.*

**Co-founder & CTO -** [**craft ai**](https://www.craft.ai/) **from 2015/03 to 2020/04** *Paris, France*

* Cofounded and scaled the company to 20+ employees, securing ~9M€ in funding.
* Directed product development and research teams, managing budgets, roadmaps, and resources to generate ~1M€ ARR and deliver 5 peer-reviewed papers.
* Led the architecture and development of an explainable AI SaaS for time series modeling & forecasting, enabling trustworthy personalized decision support and automation across industries.
* Deployed the product across ~10 AI projects, primarily in the energy sector, including with [EDF](https://www.edfenergy.com/) and [Total](https://www.totalenergies.fr), resulting in significant operational optimizations for end-users.

**Skills:** Explainable AI, Machine learning, Data science, Python, Rust, Javascript, Kubernetes, Kafka, AWS, Azure.

**Lead Software Engineer & Product Manager -** [**MASA Group**](https://masasim.com/) **from 2012/01 to 2015/02** *Paris, France*

* Managed a team of ~5 software engineers across Paris and Munich, aligning priorities and resource allocation with company leadership to meet project goals.
* Architected and developed an AI agent authoring tool and runtime, featuring behavior tree & spatial reasoning engines. Empowered instructional and game designers to create AI agents for simulations and video games, creating key intellectual property that later became the foundation of **craft ai**.

**Skills:** Game AI, Computational geometry, Simulation, Qt, C++.

**R&D Software Engineer -** [**Golaem** (acquired by Autodesk)](http://golaem.com/) **from 2010/01 to 2011/12** *Rennes, France*

* Led the development of the navigation engine for virtual crowds, industrializing research prototypes and algorithms developed at Inria.
* Delivered diverse applications of crowd simulation technology, including train car evaluation for [SNCF](https://www.groupe-sncf.com), real-time virtual city population with [Dassault Systèmes](https://www.3ds.com) and crowd simulation for a historical documentary with [Mikros](https://www.technicolor.com/studios/mikros-animation/). These efforts contributed to the leading crowd simulation product for the animation and VFX market.

**Skills:** Game AI, Computational geometry, Simulation, Qt, C++.

**R&D Software Engineer -** [**Inria**](https://www.inria.fr) **from 2009/02 to 2009/12** *Rennes, France*

*Starting position at Golaem as a member of the* [Bunraku](https://www.irisa.fr/bunraku) *team.*

**Software Engineer -** [**Teamlog** (acquired by
Open)](https://www.open.global) **from 2006/07 to 2009/02** *Rennes, France*

* Developed a toolchain to create virtual cities for [Orange](https://www.orange.fr), resulting in pedestrian-level digital recreation of Paris and Barcelona.
* Developed a contribution system for [PagesJaunes.fr](https://www.pagesjaunes.fr), enhancing the platform’s user engagement.

**Skills:** Geographic information systems (GIS), Computational geometry, Simulation, Qt, C++, Java.

## Additional activities

**Contributor - The Good AI from 2020/07 to 2020/12**

* Contributed written content about responsible AI.

**Data Scientist (volunteer) -** [**APHP**](https://www.aphp.fr) **from 2020/05 to 2020/06** *Paris, France*

* Supported early COVID-19 epidemiological studies by extracting & preparing data.

**Skills:** Data science, Python, Apache Spark.

**Track chair - nucl.ai from 2015/01 to 2016/07** *Vienna, Austria*

* Curated content, managed speakers and presented tracks at a yearly AI developer conference.

# Education

**MEng (Diplôme d'ingénieur) in Computer Science -** [*INSA de Rennes*](https://www.insa-rennes.fr) **from 2001/09 to 2006/06** *Rennes, France*

Engineering program, with a specialization in computer science.

**MSc in Artificial Intelligence & Computer Graphics -** [*Université de Rennes 1*](https://www.univ-rennes.fr) **from 2005/09 to 2006/06** *Rennes, France*

Academic curriculum focused on **Artificial Intelligence**, including machine learning and symbolic reasoning, & **Computer Graphics**, including virtual reality and animation.

Member of [Inria](https://www.inria.fr)'s [Bunraku](https://www.irisa.fr/bunraku) team, advised by Fabrice Lamarche.

## MOOCS

**Coursera & deeplearning.ai** Build Better Generative Adversarial Networks (GANs) **2020/11** *Deep Learning*

**Coursera & deeplearning.ai** Build Basic Generative Adversarial Networks (GANs) **2020/11** *Deep Learning*

**OpenClassrooms & Groupe INSA** Utilisez l'apprentissage par renforcement avec un drone **2020/06** *Reinforcement Learning*

**OpenClassrooms & CentraleSupelec** Réalisez des calculs distribués sur des données massives **2020/05** *Data Engineering, Distributed Computing*

**Stanford University & ml-class.org** Machine Learning course **2011/12** *Machine Learning*

# Peer-reviewed publications

**Towards Human-Steerable Battery Energy Storage System Optimization: A Novel MDP Framework
AASG workshop (Autonomous Agents for Social Good) at AAMAS, Auckland, New Zealand** (2024/06) *Sai Krishna Gottipati, Clodéric Mars, Julien Gabaud, Vahid Abdollahi, Laila El Moujthahid, Matthew E. Taylor*

**Immersive AI assistance during eVTOL multi-agent ATC traffic routing
I/ITSEC (Interservice/Industry Training, Simulation and Education Conference), Orlando, Florida** (2023/11) *Jean-François Delisle, Simon Riendeau, Clodéric Mars, Sagar Kurandwad*

**Hiking up that HILL with Cogment-Verse: Train & Operate Multi-agent Systems Learning from Humans
AAMAS (International Conference on Autonomous Agents and Multiagent Systems), London, UK** (2023/05) *Sai Krishna Gottipati, Luong-Ha Nguyen, Clodéric Mars, Matthew E. Taylor*

**WIP: Human-AI interactions in real-world complex environments using a comprehensive reinforcement learning framework
ALA (Adaptive and Learning Agent) @ AAMAS (International Conference on Autonomous Agents and Multiagent Systems), London, UK** (2023/05) *Md Saiful Islam, Srijita Das, Sai Krishna Gottipati, William Duguay, Clodéric Mars, Jalal Arabneydi, Antoine Fagette, Matthew Guzdial, Matthew E. Taylor*

**The three stages of Explainable AI: How explainability facilitates real world deployment of AI
EGC (Extraction et Gestion des Connaissances), Brussel, Belgium** (2020/04) *Clodéric Mars, Rémi Dès, Matthieu Boussard*

**Periodic split method: learning more readable decision trees for human activities
CNIA (Conférence Nationale sur les Applications Pratiques de l'Intelligence Artificielle), Caen, France** (2017/07) *Matthieu Boussard, Clodéric Mars, Rémi Dès, Caroline Chopinaud*

**Hierarchical Architecture for Group Navigation Behaviors
Game AI Pro 2** (2015/06) *Clodéric Mars, Jérémy Chanut*

# Talks

**Building AI Assistants for Augmenting Human Operators: A Roadmap Towards Creating Superteams
AI DevWorld, Santa Clara, California** (2023/10/25)

**Trustworthy Human-Machine Teaming: The Next Stage of Evolution
REAIM (Responsible AI in the Military Domain), The Hague, Netherlands** (2023/02/15)

**Towards Human-AI Teaming: Intelligence Ecosystems to Tackle High-Stakes Use Cases
Data Council, Austin, Texas** (2022/03/23)

**Améliorer l'expérience utilisateur grâce à l'intelligence artificielle
"Hello! Business Talks" Humanité(s) Digitale(s), Paris, France** (2017/03/09)

**Environmentally Conscious AI: Improving Spatial Analysis and Reasoning
GDC (Game Developers Conference) AI Summit, San Francisco, California** (2014/03/17)

**Towards Directable Autonomous Crowds
Paris Game/AI Conference, Paris, France** (2011/06/24)

# Other Publications

**The future of human-AI systems is already here – it’s just not evenly architected
Military Embedded Systems** (2021/06)

**AI & Biases 101: The bakery case
The Good AI** (2020/11)

**BT 101 – Behavior Trees grammar basics
craft ai's blog** (2015/06)