



# R&D Programmer Assistant - Learning bots that adapt to new tasks – La Forge (6 months internship)

Bordeaux, France

Intern

Flexible Working Organization: Hybrid

## Company Description

### About Ubisoft

Ubisoft's 20,000 team members, working across more than 30 countries around the world, are bound by a common mission to enrich players' lives with original and memorable gaming experiences. Their commitment and talent have brought to life many acclaimed franchises such as Assassin's Creed, Far Cry, Watch Dogs, Just Dance, Rainbow Six, and many more to come. Ubisoft is an equal opportunity employer that believes diverse backgrounds and perspectives are key to creating worlds where both players and teams can thrive and express themselves. If you are excited about solving game-changing challenges, cutting edge technologies and pushing the boundaries of entertainment, we invite you to join our journey and help us create the unknown.

### Ubisoft Bordeaux

Founded in September 2017, Ubisoft Bordeaux works with passion on the biggest AAA's game in order to offer the best gaming experiences to our players. Today, the studio has more than 400 talents, from 15 different nationalities, who work on licenses such as Assassin's Creed, Beyond Good & Evil 2, plus other unannounced free-to-play games. We are also working on exciting technologies with the Anvil team, Online services teams and with La Forge who seek to validate the value of technological innovations.

### La Forge

As Ubisoft's research and development group, La Forge brings together experts from the industry and academic sector to prototype technological innovations and improve the game-making process. With this focus on applied research, we aim to fill the gap between theory and practice, while contributing to solving real-world problems through scientific publications.

## Job Description

Reinforcement Learning primarily revolves around the development of algorithms that empower agents to independently learn behaviors. The common objective is to identify an optimal policy capable of tackling particular tasks, often stipulated through a reward function. When applied to video games, these methods enable the training of effective bots for a variety of specific roles, such as navigation, marksmanship, and more.

Typically, RL models assume that the environment dynamics, the task to be accomplished, the available actions, and other essential parameters are well-defined. In our scenario, this implies waiting for the final version of the game to be available before initiating bot training, as the production process of a video game is characterized by a highly incremental nature.

To ensure the sustained efficiency of bots throughout the entire production process, it is essential for them to swiftly adapt whenever a new game version is introduced, which may entail changes in dynamics, the introduction of new abilities, and more. This requires an extension of RL techniques that enables them to incrementally adapt to evolving tasks. This challenge, commonly referred to as Continual Reinforcement Learning, remains unsolved and constitutes the central focus of the proposed internship.

Within this internship, the selected candidate will become a part of our Continual Learning Group, actively engaging in the creation of novel models capable of rapid adaptation to various tasks and changes in the gaming environment. The role will encompass the implementation and evaluation of recent techniques within a video game context.

Furthermore, the candidate will be tasked with refining these models, taking into account an offline setting in which player data is available, albeit in limited quantities, necessitating the system's ability to harness past information to address new challenges.

## Qualifications

- You are a last year student of an engineering school or a university research master;
- You have solid knowledge in mathematics and computer science
- You have skills in machine learning, deep learning, or reinforcement learning, and have mobilized them using suitable Python libraries
- Your level of English allows you to work in an international team and to communicate easily with non-French speakers.

Skills and competencies show up in different forms and can be based on different experiences, that's why we strongly encourage you to apply even though you may not have all the requirements listed above.

## Additional Information

### Process:

- Phone Interview with a recruiter
- Technical assesement
- Interview(s) with our internal teams

If your application is not retained, you will receive a negative answer.

*At Ubisoft, you can come as you are. We embrace diversity in all its forms. We're committed to fostering a work environment that is inclusive and respectful of all differences, we value diversity at our company and do not discriminate on the basis of race, ethnicity, religion, gender, sexual orientation, age or disability status. All personal informations will be treated as confidential according to the Employment Equity act.*

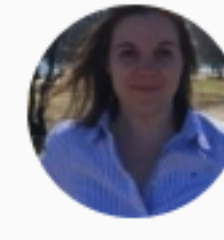
Check out [this guide](#) to help you with your application, and learn about our actions to encourage more diversity and inclusion.



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Posted by  
**Marie Piquot**

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