

# Joint Proceedings of the AIIDE 2018 Workshops

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## Abstract

This volume contains the papers from the following workshops, held on November 13 - 14, 2018 and co-located with the 14th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE'18) in Edmonton, AB, Canada: 1) the 2018 Workshop on Artificial Intelligence for Strategy Games, 2) the 5th Experimental AI in Games Workshop (EXAG), and 3) the Multi-Agent Reinforcement Learning in Malmö Workshop (MARLÖ).

## The 2018 Workshop on Artificial Intelligence for Strategy Games

The 2018 Workshop on Artificial Intelligence for Strategy Games follows a successful series of AIIDE workshops that were held in response to the considerable interest in the subject and the limited time for reporting on the annual StarCraft competition in the main AIIDE conference. The goal of the workshop is to bring together AI researchers and game AI programmers from industry, who are interested in strategic game AI, to present and exchange ideas on the subject, and to discuss how academia and game companies can work together to improve the state-of-the-art in AI for games.

## The 5th Experimental AI in Games Workshop (EXAG)

The Experimental AI in Games (EXAG) workshop aims to foster experimentation in game AI research and all forms of game development. In addition to presenting traditional academic talks and live demos of AI technology, EXAG welcomes a diverse community of researchers and practitioners with activities including a show-and-tell demo and gameplay session.

## The Multi-Agent Reinforcement Learning in Malmö Workshop (MARLÖ)

This AIIDE workshop is centered on the MARLÖ competition on Multi-Agent Reinforcement Learning in Malmö. The aim of the competition is to foster research in

agents that can learn to play a range of multi-agent games. This workshop is a key opportunity to raise awareness of the competition and associated research challenges within the AIIDE community, to brainstorm and discuss research directions in multi-task, multi-agent learning in modern video games, and to create a fertile ground for novel collaborations.

## Acknowledgement

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## Workshop Organization

### The 2018 Workshop on Artificial Intelligence for Strategy Games

#### Workshop Chairs

- Michael Buro, University of Alberta
- Santiago Ontañón, Drexel University

#### Program Committee

- Michael Buro, University of Alberta
- Santiago Ontañón, Drexel University
- David Churchill, Memorial University
- Nathan Sturtevant, University of Alberta
- Florian Richoux, University de Nantes
- Mike Preuss, University Münster
- Nicolas Barriga, University de Talca
- Kevin Dill, Lockheed Martin
- Levi Lelis, University Federal de Viosa
- Julian Mariño, University de São Paulo
- Alberto Uriarte, Drexel University
- Gabriel Synnaeve, Facebook
- Zeming Lin, Facebook
- Julian Togelius, NYU
- Yaser Norouzzadeh, Tilburg University
- Hector Munoz-Avila, Lehigh University
- Graham Kendall, University of Nottingham
- Simon Lucas, Queen Mary University

### The 5th Experimental AI in Games Workshop (EXAG)

#### Workshop Chairs

- Jo Mazeika, University of California, Santa Cruz
- Ethan Robison, Northwestern University
- Alex Zook, Blizzard Entertainment

#### Program Committee

- Joe Mazeika, University of California, Santa Cruz
- Ethan Robison, Northwestern University
- Alexander Zook, Blizzard Entertainment
- Kate Compton, UCSC
- Matthew Guzdial, Georgia Institute of Technology
- Justus Robertson, North Carolina State University
- Boyang Li, Liulishuo Silicon Valley AI Lab
- Joseph Osborn, Pomona College
- Monique Abed, AAAI-18

- Max Kreminski, UC Santa Cruz
- Jeremy Gow, Queen Mary University of London
- Amy K. Hoover, New Jersey Institute of Technology
- Squirrel Eiserloh, SMU Guildhall
- Allison Parrish, New York University
- Christoffer Holmgård, Northeastern University
- Peter A. Mawhorter, Massachusetts Institute of Technology
- Jonathan Tremblay, McGill University
- Andrew Stockdale, University of Kent
- Melanie Dickinson, University of California, Santa Cruz
- Nathan Sturtevant, University of Alberta
- Chong-U Lim, Improbable
- Kristin Siu, Georgia Institute of Technology
- Eric Butler, University of Washington
- Michael Cook, Goldsmiths College, University of London
- Sarah Harmon, UCSC
- Johnathan Pagnutti, University of California, Santa Cruz
- Sam Devlin, Microsoft
- Kazjon Grace, UNC Charlotte
- Martin Modrák, Institute of Microbiology of the Czech Academy of Sciences

### The Multi-Agent Reinforcement Learning in Malmö Workshop (MARLÖ)

#### Workshop Organizing Committee

- Diego Perez-Liebana, Queen Mary University of London
- Raluca D. Gaina, Queen Mary University of London
- Daniel Ionita, Queen Mary University of London
- Sharada P. Mohanty, École polytechnique fédérale de Lausanne
- Sam Devlin, Microsoft Research
- Andre Kramer, Microsoft Research
- Noburu (Sean) Kuno, Microsoft Research
- Katja Hofmann, Microsoft Research

#### Organizing Committee

##### Program Committee

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- Tim Brys, Vrije Universiteit Brussel
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- Michal Kempka, Poznan University of Technology
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- Ann Nowé, VUB

- Julien Pérolat, Google Deepmind
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- Vanessa Volz, TU Dortmund
- Peter Vrancx, Prowler.io