PRESS RELEASE

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Article by YOKOZUNA data scientists wins the Best Paper Award at FICC 2018

The paper was presented last week at the conference and will be published in the IEEE proceedings

Tokyo, Japan (April 12, 2018) – Middleware technology and game development company Silicon Studio Corporation is pleased to announce that the article Forecasting Player Behavioral Data and Simulating in-Game Events, written by YOKOZUNA data—Silicon Studio's machine learning engine to predict individual player behavior—scientists Anna Guitart, Pei Pei Chen, Paul Bertens and África Periáñez, has won the Best Paper Award at the Future of Information and Communication Conference (FICC) 2018, held in Singapore on 5–6 April 2018. The paper was presented at the meeting through a talk by Anna Guitart and will be included in the conference proceedings, published by the Institute of Electrical and Electronics Engineers (IEEE).

The paper (abstract below) focuses on two issues: on the one hand, accurately forecasting time series of in-game sales and playtime; on the other, finding the best combination of in-game events and the optimal time to publish them through simulations. To achieve these goals, the scientists performed an experimental analysis using various machine learning techniques. They came to the conclusion that state-of-the-art techniques based on deep learning show promising results, while offering much more flexibility than traditional approaches to adapt to different types of datasets. This kind of techniques are the ones behind the success of YOKOZUNA data, which recently proved its prediction accuracy by winning both tracks of the Game Data Mining competition hosted at the CIG 2017 meeting.

FICC 2018 gathered numerous academia and industry researchers from diverse areas related to information and communication, such as Data Science, Computing or the Internet of Things. It allowed attendants to share their recent developments and vision of the field with other accomplished professionals, towards the common goal of shaping the future of the communication, computing and society.

This event is part of the SAI Conferences, a group of annual conferences produced by The Science and Information (SAI) Organization, based in the United Kingdom.

Abstract of the award-winning paper

Forecasting Player Behavioral Data and Simulating in-Game Events

Understanding player behavior is fundamental in game data science. Video games evolve as players interact with the game, so being able to foresee player experience would help to ensure a successful game development. In particular, game developers need to evaluate beforehand the impact of in-game events. Simulation optimization of these events is crucial to increase player engagement and maximize monetization. We present an experimental analysis of several methods to forecast game-related variables, with two main aims: to obtain accurate predictions of in-app purchases and playtime in an operational production environment, and to perform simulations of in-game events in order to maximize sales and playtime. Our ultimate purpose is to take a step towards the data-driven development of games. The results suggest that, even though the performance of traditional approaches such as ARIMA is still better, the outcomes of state-of-the-art techniques like deep learning are promising. Deep learning comes up as a well-suited general model that could be used to forecast a variety of time series with different dynamic behaviors.

About YOKOZUNA data

YOKOZUNA data is a state-of-the-art machine-learning engine to predict individual player behavior. It consists of a recommendation system and a player prediction platform that utilize next generation artificial intelligence algorithms to move game development into the future. Recently, it has also entered the healthcare sector, with the aim of contributing to the development of preventive medical care.
http://www.yokozunadata.com/

About Silicon Studio

Silicon Studio is a Japan-based game engine and middleware company providing quality rendering, optical effects, and post-effect solutions for game development. Silicon Studio also develops and publishes games across mobile, PC and console platforms, and develops games for third parties.
https://www.siliconstudio.co.jp/

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