❋ICU *NS Forum*   AY2021-08

夏休み情報科学シリーズ「はじめての情報科学」第6弾

情報科学メジャーの学生はもちろんのこと、それ以外のメジャーの学生、まだメジャーを決めていない1−2年生の視聴も大歓迎です。教員の皆さんもふるってご視聴ください。言語は英語です。

日 時: August 6th Friday 13:30−14:40

場 所: https://icu.zoom.us/j/94636706909
Meeting ID: 946 3670 6909　 PW: 968415

題 目: Introduction to Genetic Algorithms: Theory and Applications

演 者: Dr. Jia Luo,
JSPS research fellow, Graduate School of Information, Production and Systems, Waseda University

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要 旨: Abstract: This is an introductory lecture to Genetic Algorithms. In computer science, Genetic Algorithms are widely used for generating high-quality solutions to solve optimization and search problems. They draw their inspiration from the natural selection process theory seen in biological evolution. The lecture will start by explaining some key concepts behind them coming from bioinspiration. Afterwards, it delves into algorithm design, focusing on biologically inspired operators such as selection, crossover, and mutation. Finally, several case studies are presented, showing students how Genetic Algorithms are used to solve practical problems. The theory and its applications are covered by showcasing basic and more sophisticated examples. Both beginners and advanced learners in artificial intelligence will gain valuable knowledge from it. At the end of the lecture, students will have a clear understanding of the Genetic Algorithms' fundamental mechanisms and can use them to solve real-world problems.

What the students will learn:

- What is the fundamental idea behind Genetic Algorithms?
- How to set up a Genetic Algorithm to solve a specific problem?
- How the selection operator makes "good individuals" survive?
- How the crossover operator exchanges genes between two individuals?
- How the mutation operator produces new individuals?
- How to find the maximum value of a quadratic function?
- How to solve the travelling salesman problem?

NS forum の Moodle があります。授業のコメントシートはこちらに投稿してください。また大学院生の方はコメントシートの提出で出席とします。

https://moodle3.icu.ac.jp/course/view.php?id=3836

Summer Information Science Series
Information Science for beginners" Vol. 6

Not only students of the Information Science major, but also students of other majors, and the first- and the second-year students who have not yet decided on a major are welcome to watch. Faculty members are also welcome to attend. The language is English.

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There is a Moodle for the NS forum. Please post comment sheets for the class here. If you are a graduate student, your attendance will be counted by submitting the comment sheet.

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