Event Report -IEEE CIS DL Program

Chapter: CIS/GRSS Jt. Chapter Chapter
Section: Hyderabad Section
Region: R10
Date & Time: 6th Oct 2020 17:00 to 18:00Hrs

Speaker Name: Prof. Chia-Feng Juang, Taiwan

Brief about the talk: Evolutionary robots, like autonomous artificial organisms, automatically develop their own skills by interaction with the environment. This talk focused on evolutionary locomotion control of mobile robots using computational intelligence techniques, including fuzzy systems and evolutionary computation.

- Firstly, the speaker has introduced the basic concept of evolutionary fuzzy systems (EFSs).
- Next, for wheeled robots, an obstacle boundary following behavior learned through EFSs were introduced.
- Evolutionary fuzzy control of a single wheeled robot and multiple wheeled robots cooperatively carrying an object through multi-objective evolutionary computation algorithms for obstacle boundary following were explained.
- The concept of boosting the learning efficiency of multi-objective EFSs in this application, the technique of

reinforcement neural fuzzy surrogate-assisted learning was discussed in detailed.

- Finally, navigation of a single and multiple cooperative wheeled robots in unknown environments was presented.

Feedback:

- The session was well attended by many senior members of the section. As the talk is interdisciplinary, very good interaction was recorded in the Q&A Session.
- The speaker has provided the lecture content and the lecture was recorded and made available to all the registered participants.
- Some concepts like Evolutionary fuzzy systems and applications of multi-objective EFSs were really interesting to many participants.
- The feedback was very good for this talk.

Photograph:
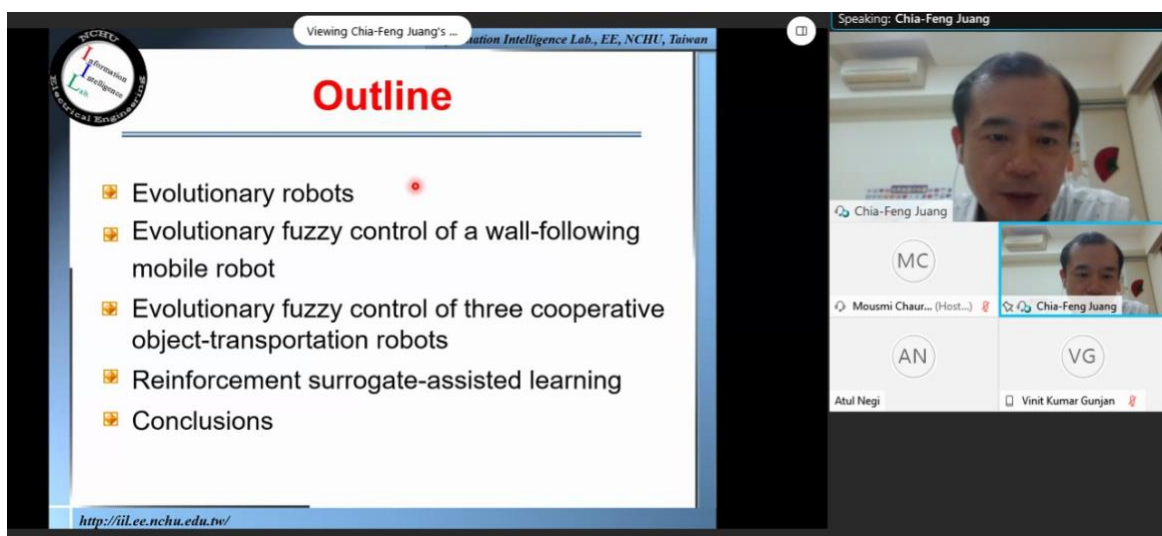
Number of IEEE CIS Members attended: 20

IEEE Members attended: 60

L31 Report filed: Yes. The report was filed on 7th Oct 2020.

Dr. T. Hitendra Sarma

Chair