



The Resurgence of the SMC Society Tunisia Chapter in 2023

The IEEE SMC Society Tunisia Chapter was established in 2009. The first technical activity was inviting late Prof. William A. Gruver, a past president of the IEEE SMC Society, as the Distinguished Lecturer. Every two years, the Chapter held elections for the Chapter's Executive Committee. 2023 is considered as a resurgence of the Chapter's activities (see Fig. 1) as the founding Chair Prof. Ilhem Kallel became again the Chapter Chair and invited committed volunteers interested in SMC to join the Executive Committee. Details are posted on the Chapter's website: <https://smc.ieee.tn/>.

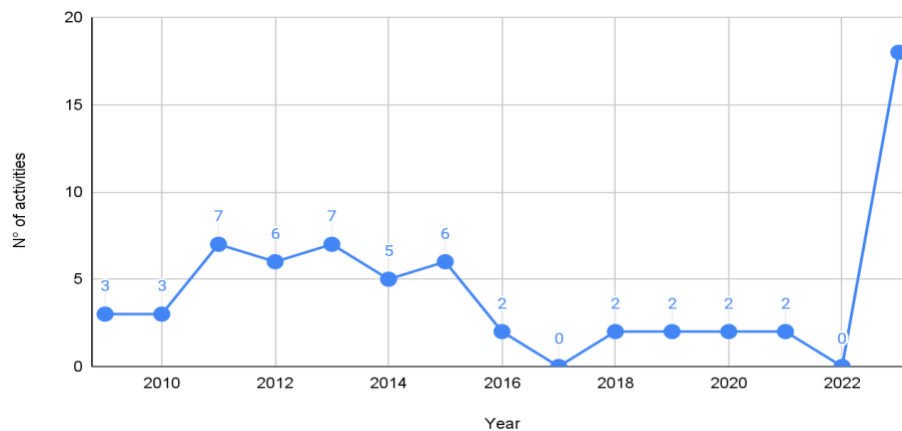


Figure 1: Historical number of the IEEE SMC Society Tunisia Chapter's Activities: 2009-2023.

Since January 2023, the IEEE SMC Society Tunisia Chapter is experiencing a revival period and has organized diverse activities (virtual administrative meetings, information sessions, technical training sessions and workshops; in-person technical challenges, technical co-sponsorship of conferences, and invitation of distinguished lecturer) impacting IEEE and non-IEEE members in Tunisia and further increasing the SMC Society membership.

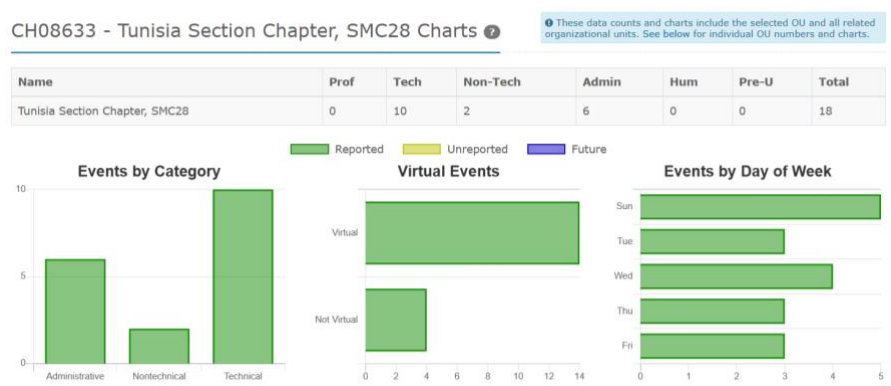
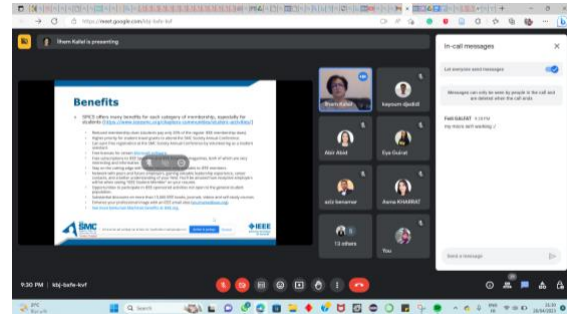
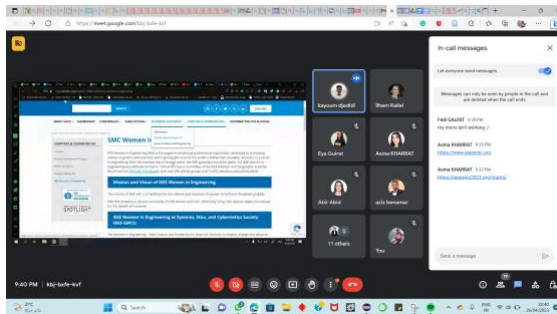


Figure 2: Diversity of the 2023 IEEE SMC Society Tunisia Chapter's activities (reported for Vtools by the Chapter Secretary).



2023 Non-Technical Activities: Report

- **Information Session:** The first Chapter's activity was an information session for IEEE Members in Tunisia held on 26 April 2023, with 15 participants about discovering the Society fields of interest (FoI) and its membership benefits.



- **Fit Fest Sports Event:** The second Chapter's activity was organized on 14 May 2023, with 100 Tunisia participants to promote collaborations between the IEEE SMC Society Tunisia Chapter and the IEEE *ESSTHS* Student Branch, IEEE *ESSTHS* SB Sight Group, Polytechnique Sousse, and *PerfectFit* gym. We organized the "FIT FEST SPORTS EVENT" to encourage young students and teachers to practice outdoor sports in the "*ESPACE LES JARDINS FLEURIS*", Sousse.



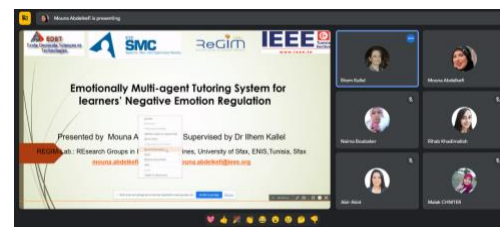


2023 Technical Activities: Report

In the latter half of 2023, the IEEE SMC Society Tunisia Chapter introduced a revival program designed to empower students' professional growth and broaden their knowledge in various domains.

- **Virtual Workshop Series “Towards Building Smart Educational Systems”:** We started with this workshop series that encompasses 2 sessions:

- **Workshop 1:** “Managing Learners' Negative Emotions during the Learning Episode” was held virtually on 21 July 2023, with 7 participants.



- **Workshop 2:** “System Optimization in Collaborative Learning Teams construction” was held virtually on 28 July 2023, with 10 participants.

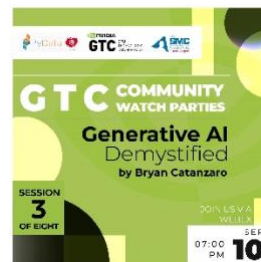
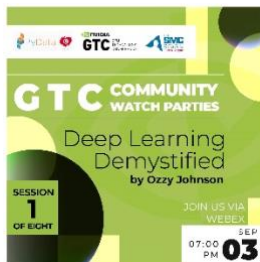




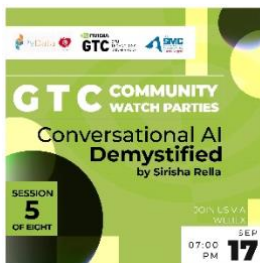
- **Virtual Training Sessions Series “GTC Community Watch Parties”**: We continued to immerse students in the world of new technologies, deep learning, and Artificial Intelligence. The IEEE Society Tunisia Chapter, in collaboration with *PyData* Tunisia and *NVIDIA*, hosted a series of training sessions “GTC Community Watch Parties”, on the following topics:



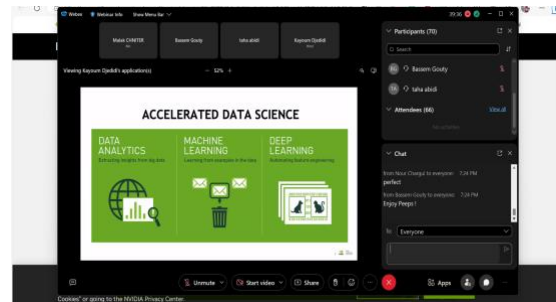
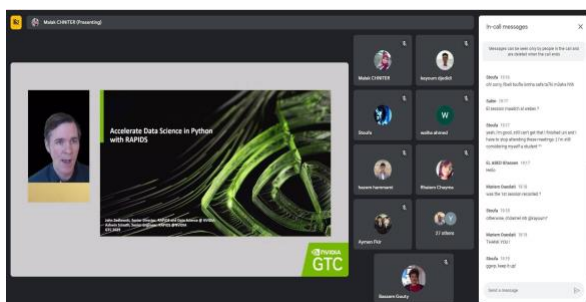
SMC



- **Session 1**: Deep Learning Demystified, 65 participants;
- **Session 2**: Accelerated Data Science with RAPIDS, 33 participants;
- **Session 3**: Generative AI Demystified, 60 participants;
- **Session 4**: AI for Software Developer, 30 participants;



- **Session 5**: Conversational AI Demystified, 32 participants;
- **Session 6**: Accelerating Python with CUDA, 42 participants;
- **Session 7**: Speech AI Demystified, 28 participants;
- **Session 8**: Moving to the cloud? What you need to know from basis to best practices, 54 participants.





- **Technical co-Sponsorship:** In May 2023, a Memorandum of Understanding (MOU) with 2023 *Afro-Mediterranean Conference on Artificial Intelligence* (AMCAI), scheduled to begin on 13 December 23, has been created and approved including a technical co-sponsorship of IEEE SMC Tunisia Chapter and a financial sponsorship shared between ATIA association and IEEE Africa Council.
- **Co-Organizing the IEEE AMCAI Conference:** IEEE AMCAI2023 (<https://amcai.atia.org.tn/>), held in Hammamet, Tunisia, from 13 to 15 December 2023, gathered about 120 participants.





• SMC Society Distinguished Lecturer: Prof. Ljiljana Trajkovic



As part of the SMC Society DL program, the Tunisia Chapter invited Prof. Ljiljana Trajkovic to visit Tunisia from 12 to 20 December 2023, where she had an active and participatory schedule by supporting the SMC TN Chapter Chair, Ilhem Kallel, and the ENIS SBC vice-chair, Abir Abid, in all their planned activities. Firstly, she participated to the AMCAI2023 conference, presented a plenary talk entitled “*Machine Learning for Detecting Internet Traffic Anomalies*”, and served as session chair.



On December 16, she moved to Sousse to participate in the plenary talk given by Prof. Saifur Rahman, 2023 IEEE President, during the opening ceremony of the IEEE IREC2023 conference. She also participated in the IEEE Tunisia Section ExCom meeting held on 17 December 2023 in Hammamet.



From 18 December, she participated in the 11th IEEE Tunisian Students & Young Professionals Congress (TSYP2023), where she led a workshop about the same subject

and contribute as a jury member to the evaluation of a technical challenge organized by the Chapter as part of TSYP2023.

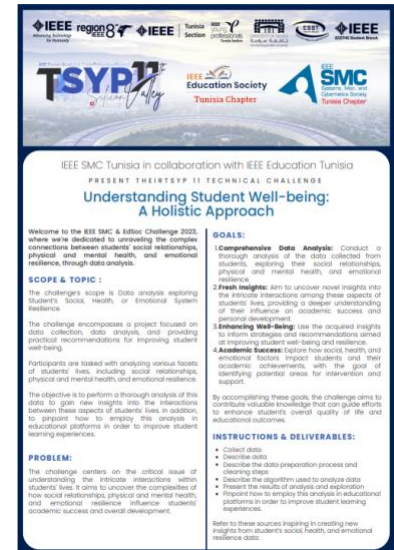




- **Technical SMC/EdSoc Challenge “Understanding Student Well-being: A Holistic Approach”**

During the TSYP2023 Congress (<https://tsyp.ieee.tn/>), the IEEE SMC Tunisia Chapter in collaboration with the IEEE EdSoc Tunisia Chapter proposed a technical challenge entitled “Understanding Student Well-being: A Holistic Approach”. The call was opened from 15/10/2023 to 10/12/2023.

Scope & Objective of the Challenge: The challenge encompasses a project focused on data collection, data analysis, and providing practical recommendations for improving student well-being. Participants are tasked with analyzing various facets of students' lives, including social relationships, physical and mental health, and emotional resilience. The objective was to perform a thorough analysis of collected data to gain new insights into the interactions between these aspects of students' lives and to advise how to employ this analysis in educational platforms in order to improve student learning experiences.



Presentations and Evaluation of the Submitted Projects:



We received 16 Teams' submissions with 63 participants. In fact, each team is composed of 2 to 5 members.

The Jury members:

SMCS Tunisia Chapter Chair: Prof. Ilhem Kallel

SMCS invited DL: Prof. Ljiljana Tajkovic

EdSoc Tunisia Chapter Chair: Ms. Abir Abid

EdSoc invited DL: Prof. Hamadou Saliah-Hassane

Tunisia Section MAC Chair: Prof. Ahmed Maalel



All submitted projects complied with the specifications. They differ on the problem addressed, the size of the collected dataset as well as the number and variety of features. Most of them presented a commendable data exploration and analysis. Some projects were able to present a birth of a trained model.





Three Equal Best Challenge Awards:



The Challenge organizers (SMCS and EdSoc Tunisia Chapters' Executive Committees) and the winners were pleasantly surprised by the initiative of a TSYP sponsor “Borgi Phones” who offered a smart watch to each presenter of the winning team.





Membership Development: Findings & Future Strategy

Among the positive impacts of the resurgence of the Chapter, is the reactivation of the unique SMC Student Branch Chapter in Tunisia, hosted by the National Engineering School of Sfax (ENIS). This was the initially suggestion by our invited DL, Prof. Ljiljana Trajkovic during our first contact. The SMC ExCom, helped in nominating new student volunteers and assisted them in applying for a grant to participate in TSYP2023. We received \$1,000 as a grant.

We recall the participation rules to the organized technical SMCS/EdSoc challenge during TSYP2023: Each Student Branch may be presented by only one team, minimum/maximum number of participants per team, and that at least one participant from the team has to be a member of SMC Society or EdSoc Society. Furthermore, additional 2 points scored for every SMCS or Edsoc Society member in the team. As a result, the number of members of both Societies increased (especially for the EdSoc Tunisia Chapter) thanks to the exceptional measures taken by EdSoc to apply very reduced membership fees to students (less than \$1) since August 2022!

Involving the students in such a challenge has a noticeable effect on their participation in both the IEEE SMCS and EdSoc Chapters as shown in Fig. 4 and Fig. 5. The Chapters have welcomed diverse grades, particularly the StdM, and GStdM has increased in 2023 compared to the 2022 (the first histogram bar in Fig. 4).



Figure 4: Distribution of members in the SMC TN Chapter by Grade and Years of Service

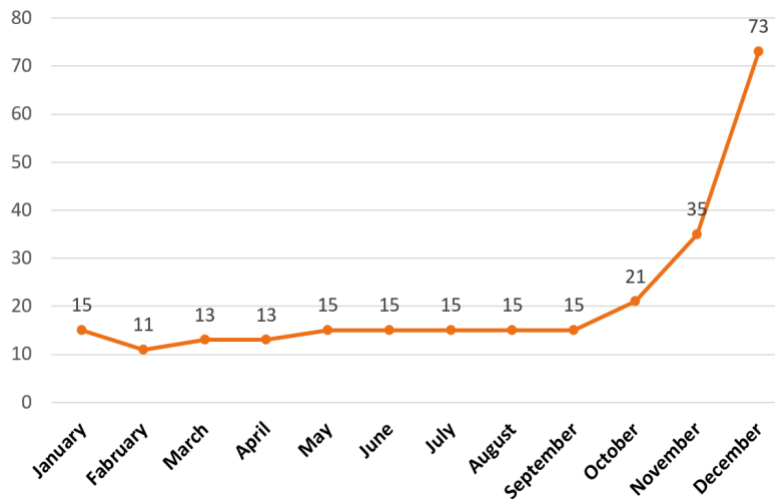


Figure 5: Evolution of the number of members in the EdSoc TN Chapter during 2023

In the quest to continue developing the SMC memberships in Tunisia and to generate added values, for IEEE or non-IEEE members, we propose to:

- Organize Informational Booths and Plenary Talks within the institutes to present the SMC Society mission and benefits;
- Encourage Student Branches to create SMCS SB Chapters;
- Encourage the SMC Society members and units to apply to the open calls for participation;
- Organize engaging events, exciting challenges, and dynamic activities by providing attractive guidelines and promotions to motivate members to participate.
- Launch a second round for the SMC/EdSoc challenge to address the cybernetics aspects.

Authored by:



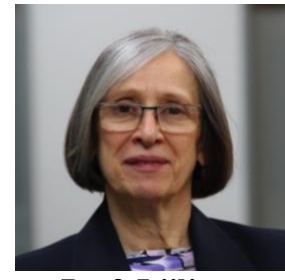
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