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EDITORIAL

WELCOME MESSAGES

Message from IEEE Indonesia Section

Welcome to the IEEE Indonesia Section Bulletin!

We would like to use this Newsletter as a platform for our community to share our upcoming events and programs related to IEEE IS. This platform is also used for appreciating our members who have worked hard and contributed to the advancement of IEEE IS.

We will also focus on developing new programs to reach rural areas far from the center (especially East Indonesia and Central Indonesia). This can be achieved by implementing measures such as building strong cooperation with communities, industry, government and engineering and engineering technology. In addition, we would also like to improve the quality of our conferences and publications, increase the number of IEEE IS memberships, and reignite inactive Student Branches and Chapters.

Finally, This Newsletter cannot be completed without the hard work of members of IEEE IS. We hope that IEEE IS will always benefit academics and professionals, both for our country and internationally

Chair,

Prof. Dr. Eng. Wisnu Jatmiko, S.T, M.Kom

FROM CHAIR DESK

Welcome you to the April edition of IEEE Indonesia Section Newsletter for 2020. This edition features reports on several Webinar activities and special tech review about covid-19 prediction from IEEE- Computational Intelligence Society Indonesia. I would like to thank the authors who have contributed to the completion of this Newsletter, Prof Teddy Mantoro, Rachmadya Trias Handayanto, Dr. Nur Afny Catur Andryani, Richard Addyanto, and Muhammad Sabirin Hadis. And thanks again all of you for your support

Dr.Eng. Adi Wibowo, S.Si, M.Kom

ENHANCEMENT OF NUMERICAL MODEL FOR COVID-19 PREDICTION IN COMPUTATIONAL INTELLIGENCE

Teddy Mantoro (Dept. Computer Science, FET, Sampoerna University, Jakarta)
Rachmadya Trias Handayanto (Faculty of Engineering, Universitas Islam "45" Bekasi)
 IEEE - Computational Intelligence Society Indonesia

Computational Intelligence methods for modeling, optimization and prediction cover a large number of applications. Many numerical models have been created for prediction purposes especially for spread of diseases, for example one famous model that many researchers have used today, the susceptible-infected-recovered (SIR) model. This model uses some parameters that are difficult to implement, e.g. infected rate, recovery rate, etc. Actual case sometimes below or above the prediction in using the SIR model especially for the infected and recovered rate. Therefore, some additional treatments need to be done to fix the prediction error.

Some studies have used logistic curve to fit the SIR model as well as other optimization method for finding the minimum of an objective function. As an example, the Covid-19 case in Jakarta, the capital city of Indonesia, with the standard parameters in SIR model were compared to the SIR model based on the fitting of data with logistic curve. Figure 1 shows the SIR model of Covid-19 case in Jakarta with population, probability of contact, probability of infecting every contact, recovery rate are 10,504,100 people, 0.00006%, 0.001%, 20 day,

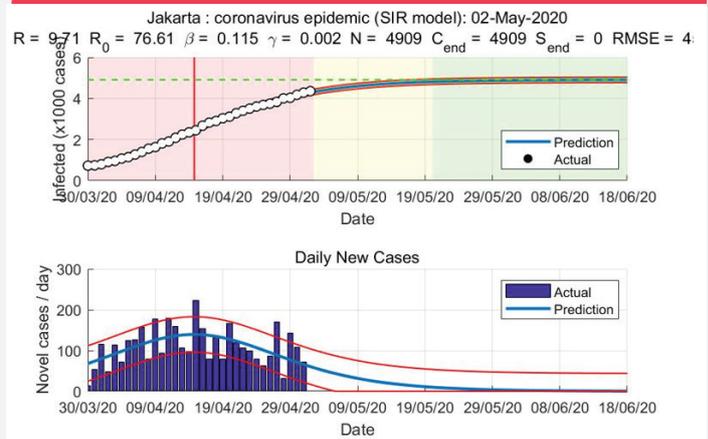
Figure 1. Simple SIR Model Prediction



This pessimistic model shows the maximum infected of 8 million people. This epidemic finishes on 18 June 2020. The actual spread was below the prediction, especially in daily infected cases. The error cannot be solved by the SIR model. Therefore, the model should be fixed every new data arrives.

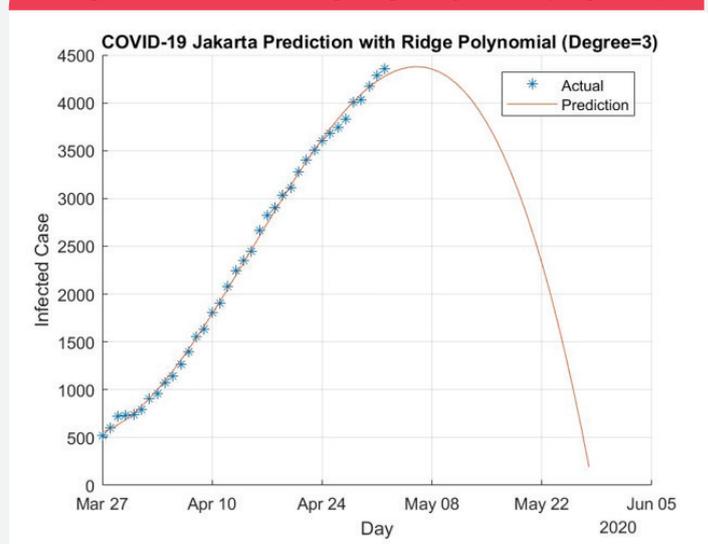
Results from the experiments suggest that the proposed approach yields better prediction performance than other state-of-the-art rating predictors (Figure 1) which are based on the logistic curve fitting with an optimization to fit the prediction with actual data have been used widely. With Covid-19 data of Jakarta from 27 March to 2 May 2020 the SIR model can be fitted as shown in Figure 2. Compared with Figure 1, the SIR model with logistic curve fitting shows the maximum infected at

Figure 2. SIR Model with Logistic Curve Fitting



The important task for computational intelligence is to present the learned parameters into the epidemic model, such as the recovered rate, infected probability, etc. The prediction sometimes needs another assumption, e.g. the culture and tradition of the people, in this case study, the tradition to go back to their villages that will adjust the infected probability if the government cannot prevent this situation and the epidemic will not stop following the Figure 2. Some regression can be used to find the maximum, such as with ridge regression (3 degrees polynomial) that shows the maximum infected case about 4,300 and finish at the end of May (Figure 3).

Figure 3. Prediction Using Ridge Polynomial (Degree=3)



Prediction in Computational Intelligence is a complex task. There may exist a good prediction model with valid data, but defining the assumptions used to make it close enough in representing reality is a big challenge. In some cases, it is better not to predict if it is resulting bad predictions, which is at most only used as part of guidance in policy making.

IEEE Indonesia Section Executive Committee Activity

IEEE Indonesia Section Executive Committee held their first 2020 meeting in COVID-19 pandemic era on March 27, 2020. The meeting was using online video conference meeting and attended by all the executive committee members of IEEE Indonesia Section for the year 2020. In this meeting several points were discussed particularly; Zoom procurement for IEEE IS meetings, international conferences in Indonesia, and IEEE IS activity programs.

The next meeting held on April 1, 2020, with the agenda was about finance. The program addressed was the distribution of financial rebates, purchasing Zoom applications, IEEE IS Tax Management, New USD IEEE IS Accounts, Donation Charts from Conference Organizer, Financial Audit Preparation. Participants who attended were all financial teams.

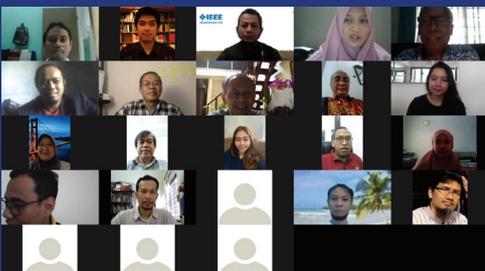


The IEEE IS Cabinet Meeting

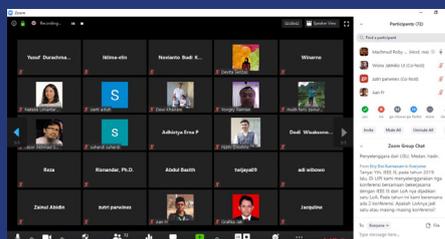


On April 3, 2020, a meeting with the new cabinet for 2020 held using the Zoom meeting. The meeting was attended by all the cabinet with several discussions related to the activity program of IEEE IS in 2020 and boosting the number of IEEE IS members in 2020. In addition, it is encouraged the collaboration activities between IEEE OUs and IEEE Student Branches. Later the next week on April 11, 2020, extended with a meeting agenda with IEEE chapters and affinity groups. The agenda of this meeting was to discuss the program for 2020. This meeting also boosted the collaboration activities between chapters, affinity groups, and Student branches.

IEEE chapters and affinity groups



In improving the quality of conferences in Indonesia virtually, the IEEE Indonesia Section held a meeting with Conference organizer on April 17, 2020. The material that will be discussed in this workshop is procedures for conducting virtual conferences, socialization of conference agreements, IEEE conference standards and ways to improve conference quality. This meeting attended by IEEE Indonesia Section Executive Committee Meeting and 41 conference organizers.



MANAGE SCHOOL FROM HOME DURING COVID 19 PANDEMIC KARTINI'S DAY WEBINAR BY WOMAN IN ENGINEERING IEEE INDONESIA

Prepared by : Dr. Nur Afny C. Andryani
Tanri Abeng University
IEEE Women in Engineering (WIE) Indonesia

Every single place in this world currently are facing struggle moment due to COVID 19 Pandemic. Quarantine policy has been applied worldwide. People have to stay home to inhibit COVID 19 transmission.

Work from Home and School from Home are two of most popular life style currently. Due to the quarantine policy, we are all forced to work from home and study from home. Mom's role come back to central recently, since the role of school for study is shifted to home. Not all of them are ready for it. Lack of Capacity or bunch of activities on their own work are the most two factors that make mommy unhappy to assist school from home for her kids.

"Mother is the center of domestic household life. Huge responsibility to educate their children is charged towards them, which will forming the child's character"
- RA Kartini

"How to manage School-From-Home for Mom in COVID 19 Pandemic"

A Webinar by Women in Engineering (WIE) - Indonesia

FREE

Tuesday / April 21st 2020, 2pm-3.30 pm **limited seats**

Registration: https://bit.ly/WIE_Webinar
CP: Yus 0878-7983-1581

Webinar link will be informed to the registered participants

Women in Engineering

Keynote speech by:
Minister of women and child development

I Gusti Ayu Bintang Darmawati
Opening Remarks:
"Parent's Responsibility for Children Education"
Prof. Dr. Riri F Sari
Guru Besar Teknik Elektro Universitas Indonesia-
WIE Indonesia chairman
Moderator : Agnes Irwanti, MSi

- How to manage the stress
- How to motivate mommy to do self-learning for being a good teacher for her kids
- How to identify children's learning characteristic
- How to manage and stick to the time
- How to recognize Mom's work
- Learning repository for home schooling

"Ibu adalah pusat kehidupan rumah tangga. Kepada mereka dibebankan tugas besar mendidik anak-anaknya, pendidikan akan membentuk budi pekertinya." - RA. Kartini

WIE Indonesia Against COVID 19 Pandemic Series

IEEE INDONESIA SECTION

Inspiring the value by Ibu Kartini above, Women in Engineering are sharing the positive energy and practical tips that is intended to inspire and to empower moms on assisting their kids doing School from Home. Tuesday, 21st April 2020, on Kartini day, moderated by Mrs Agnes Irwanti. MSi (WIE

Asia Pacific Committee Member), Women in Engineering IEEE Indonesia Section had successfully organized a Webinar "How to manage School-From-Home for Mom in COVID 19 Pandemic" as one of WIE Indonesia against COVID 19 Pandemic Series. The webinar is opened by opening remarks from Prof Wisnu Jatmiko as the IEEE Indonesia Section Chair and Prof Riri Fitri Sari as WIE IEEE Indonesi chair. This event also receives a huge support from Minister of Women Empowerment and Child Protection (PPPA) and Minister of Finance by giving their Keynote speech as the opening on the session.

In accordance to Katini Message, Ibu Bintang, the Minister of Women Empowerment & Child Protection, emphasized in her speech to optimize the Pandemic session as a return of the role of family as the central of education. A good synergy between Father and Mother is urgently needed to build a pleasant atmosphere of character education for children at home.



The second keynote speech is delivered by Ibu Dr Sri Mulyani, the Minister of Finance. She motivates moms at home to not be giving up on this pandemic. Use the quarantine period to create and to improve the long lasting relationship with whole family member especially the children. Use the technology wisely to have more bonding with the children to create impressive and memorable School at Home.



Six Talks by WIE IEEE Indonesia section was following the keynote speeches. Dr Karlisa delivered "How to manage the stress" as the first talk from the panelist. She shared practical tips, how do we can handle our stressful by emphasizing the importance of priority list determination on our all workloads. The second talk is very inspiring experience of nurture parenting from Dr. dr Yoke Saadia and her daughter, Dr Allya Pramitha. Dr Yoke had shared how she kept her role as the central of education for her children even though they were also going to the formal school.

The next talk was delivered by Dr. Nur Afny and Mrs Yus Natali who discuss the importance of recognizing the learning characteristics of the children to produce a pleasant learning moment. They emphasize, every kid is able to master something just not with the same way and not at the same time.

Assisting School from Home for mommies who are also have to conduct work from home is not easy. Time management is something challenging. Thus, Dr Dwiza and Dr Linawati shared their experience to maintain their time management on handling their children's education, while at the same time they are also be able to complete their working tasks.

Recognizing mom's effort on giving their best on assisting their children doing School from Home during this pandemic is very important to keep the motivation. Dr Dewi Liliana and Dr Chusri shared their view and experience how to keep their motivation on assisting their children by recognizing their collaboration works during School from Home.

The last but not least, Dr Sri Wahjuni and Dr Dini Fronita shared some learning repository that can be freely accessed by mommies. This learning repository can be utilized to support self-learning for mommy increasing their capacity to be a good teacher for their children during this pandemic.

This event receives very positive feedbacks from the audience. Around 305 participants are joining the webinar. We hope, they leave the Webinar room by bunch of new spirit to give better effort for being central of education for their family, not only during this pandemic but also for the next journey.



Stay Home Productive in Era of Pandemic COVID-19 with IEEE Student Activity Committee (SAC) Indonesia

Report By:

Muhammad Sabirin Hadis,

Student Coordinator Activity IEEE Indonesia Hasanudin University
Vice Coordinator Student Activity IEEE Indonesia Section 2020

"The policy of learning from home, working from home, and worship at home requires to be continually reinforced to reduce the spread of Covid-19," Jokowi said [1] at his press conference at Bogor Palace, this made several institutions, industry, and organizations start implementing a home activity policy. Lecture activities on the campus were stopped, addressing students challenged to be able to study from home.

"Activity from home with online courses makes student productivity decrease due to no longer attend on extracurricular activities for developing their potential as was usually performed before the Covid-19 pandemic," said I Putu Sudharma Yoga [2] as one of Udayana University student who currently serves as Chair of the IEEE Student Branch of his university. Therefore, the IEEE Student Activity Committee (SAC) Indonesia Section took the initiative to hold a webinar activity every week to be able to increase student productivity in exploring knowledge and improve personal skills.

The initiative of IEEE SAC Indonesia which is currently led by Amanda Julia Isa together with Muhammad Sabirin Hadis has successfully held several webinar activities held with the IEEE Student Branch in Indonesia by inviting speakers who are competent with the webinar topic.

How to Make an Appealing Awarded-Level Proposal was the theme of the first webinar activity carried out in the Covid-19 era pandemic. This activity was held in collaboration with the IEEE

Calling All Enthusiastic Students:

HOW TO MAKE AN APPEALING AWARDED-LEVEL PROPOSAL

Dr. Kurniingsih, SMIEEE
Chair, IEEE Region 10 Information Management Committee

Prof. Dr. Wisnu Jatmiko, SMIEEE
Chair, IEEE Indonesia Section

Amanda Julia Isa S.T., MIEEE
IEEE Student Activities Coordinator and 2016 Darrel Chong Award Winner

Limited to 50 slots and it's **FREE!**

Register yourself on:
bit.ly/IEEEProposalWebinar1

Saturday, April 4, 2020 at 13:00-14:30 GMT-7 via ZOOM

POWERED BY: IEEE

INDONESIA SECTION HOUSEWARMING 2020

PREPARING OUTSTANDING DELEGATION TO MEET GLOBAL AWARD REQUIREMENTS

SPEAKERS

PROF. WISNU JATMIKO
Indonesia Section Chair

DR. HENRI P. URANUS
INDONESIA AWARD AND RECOGNITION COORDINATOR

M. SABIRIN HADIS
UNHAS Researcher, UNM Lecturer CEO Belle Cerdas

STUDENT BRANCH CHAIR 2020

MICHAEL KRESNA
ITB

ANANDA T ADISURJA
UI

AMANDA JULIA ISA
Indonesia Student Activities Coordinator
HOST

RIZAL PARDANA
UNIDIP

TEGUH M RIZKI
TEL-U

SUDHARMA YOGA
UNUD

AHMAD YALJABAR
UDINUS

RIZKI D PURNOMO
UPI

VITO ATIMO
ITS

SATURDAY 11 APRIL 2020 19.00 PM

IEEE

SAC Indonesia and the IEEE Student Branch of the Bandung Institute of Technology (ITB). The speaker at this activity was Prof. Wisnu Jatmiko who currently serves as Chair of the IEEE Indonesia Section, Dr. Kurniingsih as Chair of the IEEE Region 10 Information Management Committee and Amanda Julia Isa, S.T. as a winner of the Darrel Chong Award. This activity aim is to encourage, educate, and give direction for all Indonesian IEEE students Branches to take part in the award event organized by the IEEE, therefore, students will have a high chance of getting the award. Participants were attended by all member IEEE Student Branches in Indonesia.

The next webinar activity was themed "Indonesia Section Housewarming 2020: Preparing Outstanding Delegation to Meet Global Award Require

ments" organized by IEEE SAC Indonesia. Presenters in this activity are Prof. Wisnu Jatmiko (Chair of IEEE Indonesia), Dr. Henri P. Uranus (Indonesian Award and Recognition Coordinator), and Muhammad Sabirin Hadis, M.T. (Vice Coordinator of IEEE SAC Indonesia). In this webinar, all presenters discussed technical matters regarding the requirements and recommendations to get an award from the IEEE as well as an introduction and presentation of work programs from each IEEE Student Branch in Indonesia. Participants were attended by all IEEE Student Branches in Indonesia.

The third webinar with the theme "Create and Furnish your powerful Awarded-Level Proposal held in collaboration with the IEEE SAC Indonesia with the IEEE Student Branch of the Bandung Institute of

Technology (ITB) invites presenters from abroad, Dr. Saaveethya Sivakumar (Region 10 Student Representative), Jeffrey Eker (Innovation Portfolio Director and Co-Author of Living Globalized) and Amanda Julia Isa, S.T. (Winner of Darrel Chong Award) to discuss technical details concerning the IEEE awards. Participants were attended by IEEE Student Branches throughout Indonesia.

"Shine your future with Mastering Teamwork and Interpersonal Skills" is the fourth webinar theme organized by IEEE SAC Indonesia with IEEE Student Branch Udayana University. This webinar invited Euro Management CEO, Bimo Joga Sasongko, BSAE, MSEIE, MBA, and Al Akbar Rahmadillah as the Founder of Sobat Cyber Indonesia and Amanda Julia Isa as IEEE Indonesia Student Activities Coordinator. This activity discusses how to build good teamwork in an organization and also about time management between academics and organizations. Participants were attended by the IEEE Student Branch and the general public throughout Indonesia.

"How To Brand Yourself in Disruptive Era" is the theme of the webinar activity at the end of April organized by IEEE SAC Indonesia with IEEE Student Branch Universitas Indonesia inviting Dipl.-Inform.M.Athar Januar, PMP, PMI-ACP (Agile Coach & Project Management Consultant) and Lavinia Adjie (Brand Communication Consultant) as presenters. This activity discusses how to build branding in yourself that can increase opportunities for career success in an era full of competition. The speaker also explained stories, tips, and tricks to achieve a career that he is currently undergoing. Participants were attended by the IEEE Student Branch and the public in Indonesia.

The webinar activities that continue held are expected to be a place for self-development especially for students to take advantage of the covid-19 pandemic era as well as promotion at IEEE Student Branch. Although the condition emphasizes all activities to always be at home, it does not become a barrier to remain productive in developing themselves and building networking in useful activities. So let's move together Stay Home Productive and Stay Home Positive.

REFERENCE

[1] Artikel ini telah tayang di Kompas.com dengan judul "Jokowi: Kerja dari Rumah, Belajar dari Rumah, Ibadah di Rumah Perlu Digencarkan", <https://nasional.kompas.com/read/2020/03/16/15454571/jokowi-kerja-dari-rumah-belajar-dari-rumah-ibadah-di-rumah-perlu-digencarkan>.

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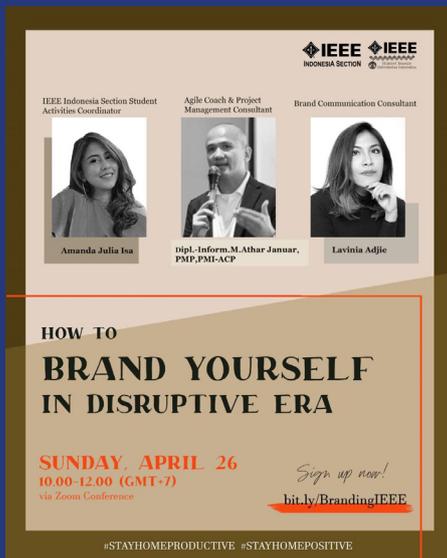
[2] Wawancara via Whatsapp dengan I Putu Sudharma Yoga, Mahasiswa Teknik Elektro, Angkatan 2017, Universitas Udayana.

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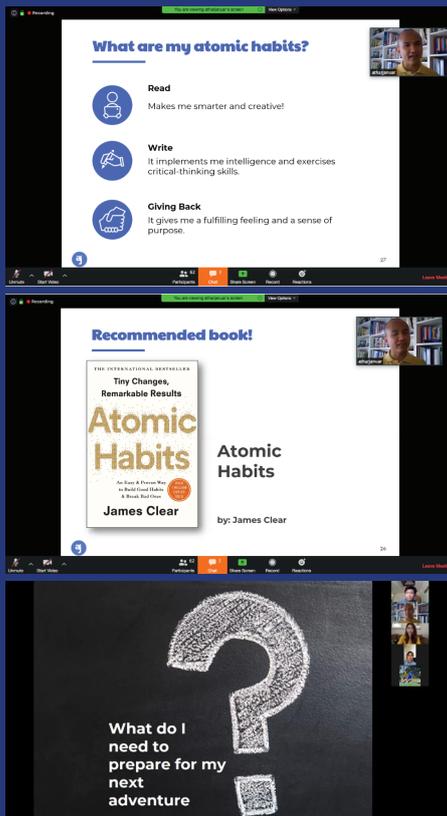
IEEE Student Branch Universitas Indonesia x IEEE Indonesia Section

26 April 2020 (10:00-12:00) GMT+7

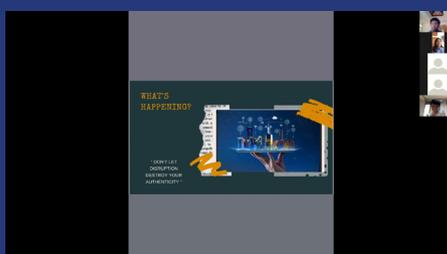
Webinar “How to Brand Yourself in Disruptive Era”



Presentation by Athar Januar (one of our speakers)



Presentation by Lavinia Adjie



Richard Addyanto

(Director of Education and Development IEEE SBUI 2020)

On 26th April 2020, IEEE Student Branch Universitas Indonesia collaborated with IEEE Indonesia Section to conduct a self-development webinar with a theme on “**Branding Yourself in The Disruptive Era**”. 112 Indonesian students attended this webinar from various reputable universities/institutions, namely: Universitas Indonesia (UI), Institut Teknologi Bandung (ITB), Universitas Diponegoro (UNDIP), Institut Teknologi Sepuluh Nopember (ITS), Telkom University, University of Udayana, and many more. This self-development webinar was the third webinar held by the on-going webinar series, which is initiated and regularly monitored under the supervision of IEEE Indonesia Section Student Activities Coordinator, Amanda Julia Isa. At first, this webinar was primarily aimed to be attended by IEEE members only and paid non-members in Universitas Indonesia. However, during this pandemic outbreak, we provide free access for all students in the world to access our webinar on Zoom conference.

We invited 2 wonderful speakers that have strong background in technology and business to be sharing their knowledge and experience about personal branding. Speakers are as follows:

1. **Dipl.-Inform. M. Athar Januar, PMP, PMI-ACP** (Agile and Project Management Consultant, Trainer, and Coach)
2. **Lavinia Maemunah Adjie** (Professional in Strategic & Creative Brand Communication)

This webinar was two-hour long which included a QnA session guided by our moderator, Amanda Julia Isa (IEEE Indonesia Section Student Activities Coordinator). There was interactive discussions and tips from our speakers about facing challenges in our agile world and insights on self-awareness as well as the importance of building a strong network to advance our future career. During the webinar, participants were also given a chance to post one interesting quote on Instagram stories that they find interesting from the sharing session. Last but not least, we provide a giveaway in a form of IEEE Power Electronics Society Membership voucher to lucky participants that are active in posting their quotes on Instagram. Overall, a lot of students gave positive feedback regarding the performance of our webinar from the questionnaire that we handed to the audiences. We hope that all of us can learn and support each other during this fighting season!

Here are some of our documentation:

After session (Photo with all participants, Prof. Wisnu Jatmiko and all speakers)

