2022 InDIITA WORKSHOP
Dignity, Inclusion, Identity, Trust & Agency
13-14 July | Bangalore, India | ieeesa.io/indiita22

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Book of Proceedings

July 13 & 14, 2022
IIIT Bangalore

#InDIITA

Contents

About IEEE DIITA

Many areas of human activity in the 21st Century take place within cyberspace. Those excluded from cyberspace are thereby excluded from a key domain of human endeavor. Exclusion may arise from many causes, including affordability, availability, discrimination, and concern for safety.

The "Dignity, Inclusion, Identity, Trust, and Agency" (DIITA) Industry Connections Program considers causes of exclusion which can be addressed by advancing technology for humanity through standardization and related solutions.

More Information Here:

https://standards.ieee.org/industry-connections/diita/

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Thank you to our Sponsors and our Host!

As an Open Space Tech event, the support of our Sponsors helps us be inclusive through keeping the ticket price low and providing opportunities to network over shared meals.

Hosted By

What is an Open Space Workshop?

InDIITA is an Open Space Workshop. It has no assigned speakers or panels, so it's about getting stuff done. At an Open Space workshop, you're invited to speak and share, raise questions, or ask for input. Whether you have an idea for a session right away or think of one in the middle of the workshop, you are welcome to propose it and run a session. We will set the agenda at the beginning of the day

Because InDIITA is an Open Space Workshop, everyone and anyone is invited to speak or share what they know about or call a session on a topic they want to discuss or find out more about.

At the beginning of each day attendees meet in an opening circle where anyone who wants to run or host a session that day announces their session topic and picks a time and place for it it be held. There is no voting or picking other than with your feet with where and when you choose to go.

40 Attendees & Participated in 17 Sessions
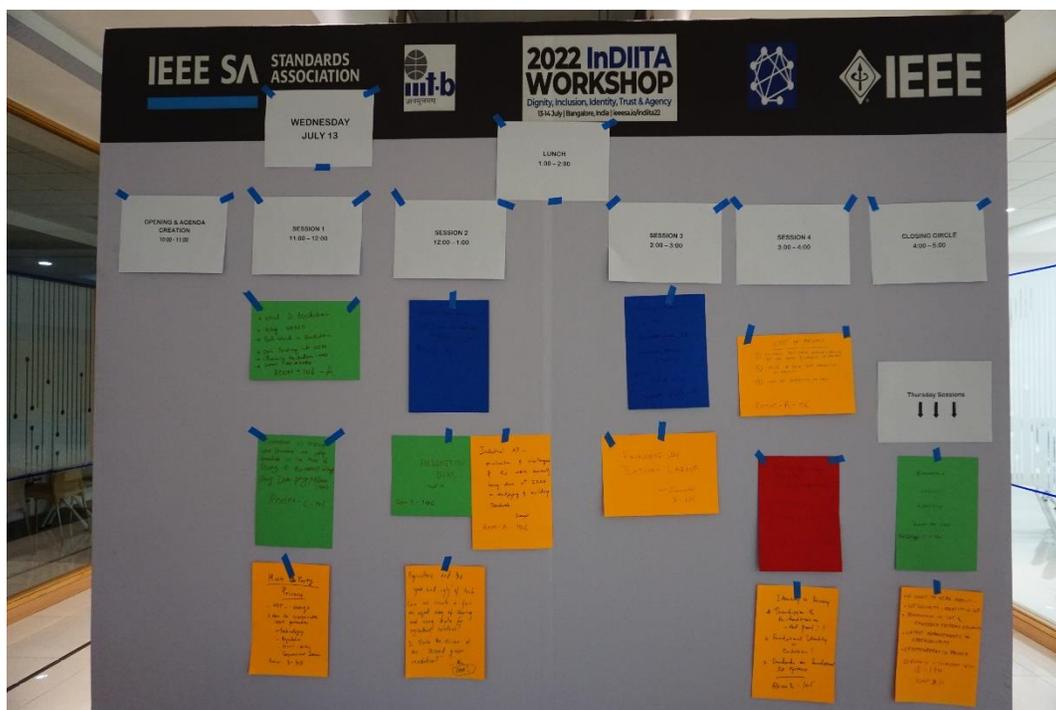
Agenda Wall with Day 1 Sessions

Open Session List #InDIITA 2022

Dignity Inclusion, Identity, Trust and Agency

Day 1 – Wednesday July 13 2022

Session 1
1A/ Blockchain and Web 3.0 - Intro to Metaverse
1B/ Multi Party Privacy
1C/ Interested in Standards in the area of Security in Biometrics

Session 2
2A/ Intrusion Detection System
2B/ Algorithmic Bias/Industrial AI

Session 3
3A/ Introduction to Foundation ID
3B/ Fairness in Platform Labour

Session 4
4A/ Privacy and AI
4B/ Identity v/s Privacy

Day 2 Thursday July 14 2022

Session 5
5A/ Build your first decentralized application
5B/ Biometric Device Identity

Session 6
6A/ Identity in IoT
6B/ Cost of Privacy

Session 7
7A/ IEEE P2989 Authentication in a Multi server environment/Privacy Preserving Machine learning
7B/ Technologies for Transparency in Governance

Session 8
8A/ Agriculture - The Good, Bad, Ugly of the Technology
8B/ No Laptop, No Problem - Utilize Smartphones to bring software development to everone

Session Notes for Wednesday July 13

Blockchain and Web 3.0 - Intro to Metaverse

Wed Session 1A
Session Convener: Osheen Mahajan, Lumos
Note Taker: Alyasa Haider

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

Fundamentals of Blockchain, Web 3.0, and Metaverse leading to the understanding of the new technology, it's applications along with the developer's guide into Web 3.0**.**

Find the presentation used in this session:

https://bit.ly/3zam7dI

Next Steps – Hosting Workshops and Webinars on Blockchain concluding into Hackathon.

Interested in Standards in the area of Security in Biometrics

Wed Session1C
Session Convener: Mohamad Rafi
Note Taker: Shamiksha Shukla

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues**.**

Discussion points:

- Need/lack of the standards in the area of security in Biometrics and the effects of these gaps that exist

- Briefly touched upon the IEEE P3167 Biometric Device Identity standards work

- Detailed discussion on the IEEE Standardization Cycle along with the process on starting a pre-standardization and standards projects within IEEE SA

       The session was very informative and interactive. Detail explaination about IEEE standard process.
       Prestandarization/Industry Connect (2yrs)
- Whitepaper
- Awareness
- Workshop
- Gap/Need Identification
- Roadmap
- Testbed

Standard can be proposed by
- Individual
- Corporate

Standard Idea - Project Authorization Request(PAR)
 NESCOM (New Standard Committee)
 Patent Number
Types of Standards
- Standard
- Guidelines
- Recommendations

The complete Process of Standards was explained.

Next Steps:

- Create a new Industry Connections Program on Biometrics Security with IEEE SA

Algorithmic Bias/Industrial AI

Wed Session 2B
Session Convener: Mrinal ~~Soumyo Das~~
Note Taker:

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

Topics of discussion:

- Is Algorthmic Bias a fact or fiction? Discussion on some of the use cases of the current algorithmic biased systems
- Algorthmic bias in financial institutions against ethnicity, students, etc
- Multisystem Bias when it comes to Integrated systems

Next Steps –
- To look into IEEE SA [Ethically Aligned Design](#) document

Introduction to Foundation ID

Wed Session 3A
Session Convener: Sasi Kumar
Note Taker: Sanath

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

- Foundational ID should be inclusive, should be scalable to address country level rollout.
- Privacy is a major concern.
- Collect as minimal information as possible
- Culture plays a major role in Identity
  - Example - Mandatory hierarchical addressing proposal Vs flexy mechanism such as support for marking 'Homeless'
- Identity
  - for everyone (example: not necessarily only for citizens - for every resident, no age /gender barrier)
  - Uniqueness
    - Biometric for uniqueness check (Point in a Time)

- Why Identity is number ?
  - Is it a better choice for uniqueness and avoiding bias ?
  - Random number , unique (characterless)
- End goal - deliver benefit to target audience
- Verification
  - Integral part of Identity
- Foundational ID
  - Digital
  - Who you are and You are alive
  - Trust - with digital signature
- Inclusion - ease of enrolment, coverage, Issuance of credentials and ease of authentication
  - Enrollment center vs Door step enrollment
  - Issuance via post/email/SMS or at enrollment center
  - Governance and Law also play major roll and not just technology in enablement and inclusion
  - Influencers such as ID4D and Worldbank play major roll in this
- Verifiable Credentials
  - W3C Standard for digital credentials
  - Subject and claims
  - Verification
    - Paper, holograms etc -> Expensive
    - Smart card -> difficulties in using by non tech savy people
    - Online/OTP/Biometric
  - Offline Verification
    - Low Power Bluetooth(BLE)
    - NFC
    - USSD
    - Selfie
    - Togetherness mode

Questions

- How do you say we can stop using Foundational ID when many government schemes mandate the use ?
- Morality and Foundational ID
- Verification failures at POS (Ration distribution issues)
  - Traceability and complex error messages

- o "Server down" issues
- Difficulty in "Techno" language Digital divide??
- Should data in Identity always be minimal ?

Next Steps –
You may contact the MOSIP team for more information or if you are interested in contributing to MOSIP. You are invited to register at https://community.mosip.io

References

https://docs.mosip.io

https://www.youtube.com/channel/UCjiin0-ETmwnY9L94Sueeiw

Fairness in Platform Labour

Day: 1 Wed Session 3A
Session Convener: Balaji, Janaki, Amrutha
Note Taker: Aila Dutt

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

Fairwork and fair work principles

What steps are we taking?
What principles are we looking at?

Defining a platform economy:
- The platform economy in economic terms is 2 sided market platform.
- There are buyers and sellers on either side. There are networks where the more people there are on either side, there's a directly proportionate relation in terms of numbers.
- Look at visa and credit cards etc. We go to them because we know that there are merchants who accept your card.
- Your auto-rickshaw stands as a platform.
- So there's a silent contract.

- **Since these things have always existed WHY are we talking about them now?**
- We break the spacial bounds of these transactions, reducing the time for these transactions that earlier platforms could not. Temporality is compressed, spaciality expands.
- The technology is in the hands of the person providing you the service now
- So the tech now is between the service provider, and the customer and is being mediated via a digital platform that increasingly uses AI and ML.
1. **A new family of technologies**
2. **The availability of tech doesn't mean there will be used**

- In India, we have high unemployment insecurity for the vast majority.
- Existing occupations have been bought within this realm of technology. Eg. Dabbawallas. We're not creating a new occupation, we're just adapting.

3.   They incentivize people to join and then as they scale they draw customers and workers.
4.   They don't have permanent employment contracts, it's a piecework model where the platform takes a commission.
- **The law has a grey area about the status of these workers and the platforms can get away with murder**
- **There are little or no benefits given to these people.**

Can we think of a minimum set of standards to understand what is "fair"?
- **We want to provide basic conditions of work in terms of pay, safety, etc.**
- **We have a one-sided inequitable relationship b/w the technology and the worker.**

- Each of these tech platforms is running on VC and doesn't make any profit.
- They're all extremely well connected.

Therefore deeply asymmetric relationship.

THE FIVE PRINCIPLES OF FAIRWORK- designed for a global context but yet the local nuance must seep in. Platforms can only get rated on the second sub-principle after fulfilling the first. Focus on blue-collared workers mostly that are geographically tethered.

1. Fair pay
   - Workers must get the local **minimum wage after cost.**
   - Ensure workers earn at least a **local living wage after costs**
2. Fair conditions
   - Mitigates task-specific risks (eg no insurance, no benefit to fall back on for Zepto/Dunzo workers)
   - Provides a safety net (most of these workers don't have a safety net, eg what if they contract covid? Where do they get income from? Some kind of social security net. The government is looking at the code of social security and has started thinking about gig workers)
3. Fair contracts
   - Providing clear and transparent terms and conditions. Usually, the platform draws up the T&C and the worker doesn't always understand all of this. Can they make these contracts readable, comprehensible, and is it clear?
   - Ensures that there are no unfair contract terms imposed. Who does the liability fall on in case there's a lost parcel?
4. Fair management
   - Providing a channel for grievance redressal. Most of the interaction the gig worker has is now largely via the app. Should they have a problem, and who do they reach out to? Not automated responses, but real kinds of channels where they connect with a human who works on the platform.

- Equity in the management process. So many of these platforms have equity in employment despite structural differences. Do they employ marginalized sections more actively?
5. Fair representation
    - Assuring freedom of association and collective voice. Platforms acknowledge a union or group or collective and negotiate terms and conditions with them.
    - Platform working with a collective body of workers affects the worker's issues. Democratic governance.

Sources of Data:

1. Desk research
2. Platform interviews
3. Worker interviews

Triangulate this data.

- Platforms like Flipkart which did well on the 2021 report, promised that there would be a policy on minimum wage in the coming year.
- One thing none of the platforms scored well on was principle 5.
- Ola, Porter, and Uber scored a ZERO.

How do you define an employee and an employer?
- The loopholes let companies get away with not giving the gig workers any benefits

It's as much about consumers too. There is a fairwork pledge where consumers and organizations make a more conscious choice for fairwork conditions.

Other than the pledge how do you take this forward?
- Algorithms allocate work, how can we put pressure on companies to seek information on how these algorithms actually work.

Build your first decentralized application

TH Session 1A
Session Convener: Alyasa Haider
Note Taker: Alyasa Haider

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

It was a hand-on session using the following resources:
https://github.com/scaffold-eth/scaffold-eth
https://speedrunethereum.com
https://github.com/foundry-rs/foundry

Code: https://scaffoldeth-scaffoldeth-0izt1u3l3e9.ws-us54.gitpod.io/

Privacy Preserving Machine Learning

TH Session 2B
Session Convener: Kapil Tiwari
Note Taker: Samiksha Shukla

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

The convener presented the idea of privacy preserving machine learning. A new model was presented for privacy preservation.

- OpenMind

- Swift

Next Steps – Will you take any action as a result of this session? **OR** Do you have suggestions or recommendations for next steps in this area of InDIITA?
- Convener was suggested to try coming out as a standard.

IEEE P2989

TH Session 2B
Session Convener: Samiksha Shukla
Note Taker: Kapil Tiwari

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

   The convener presented the progress status of IEEE P2989 Multi Server Authentication Protocol. The idea was presented for multi server authentication.

Points we're suggested to look into that if the user is using public system with assistant how the protocol will capture keystroke and ip address.

Privacy is a major concern in the proposal.

Next Steps – Will you take any action as a result of this session? **OR** Do you have suggestions or recommendations for next steps in this area of InDIITA?
Will work on suggestions.

Cost of Privacy

TH Session 3A
Session Convener: Arun Tanksali
Note Taker: Arun Tanksali

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.
Arun presented the background of the topic, the motivations for the discussion and a proposed experiment.
The experiment was to create a mechanism to increase awareness amongst end users of the extent of information they are sharing. There was a robust discussion on the challenges and need for creating such an awareness. There was general consensus that creating such an awareness is important.

Dr. Janaki made the important point that creating such an awareness is necessary but not sufficient and further steps needs to be taken.

Prof. Sridhar indicated that bridging the gap between the stated and revealed behaviours of users needs to be bridged and tools need to be created to that end.

Mr. Sasi brought in an interesting angle that providing awareness of an users' own practices in the context of privacy might be illuminating.

The SocIT Foundation which Arun represented in this discussion is interested in taking this experiment forward and would share information, via IEEE, to the participants of this discussion. A post-session request to IEEE is to facilitate such an information sharing.

Do technologies lead to greater transparency?

TH Session 4A
Session Convener : Rajesh D Hanbal
Note Taker: Rajesh

Please list the key points of your conversation and/or what you would like to share with the IEEE community and your colleagues.

Slides for the session :
https://bit.ly/3BtslrQ