

JUNE 2024 | ISSUE 1

# BIETians'



# TECH*ature*



Bharat Institute of  
Engineering  
And Technology

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Photo credit: K Manideep Reddy, CSE D  
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**Editor:**

**Debangana Das**  
Assistant Professor  
Department of English

**Co-ordinator: Department of English**

## From the chairman, BIET:

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“Time and Tide waits for none” is widely known; but, how we manage our Time and what we do with it makes all the difference. Engaging oneself in qualitative work as opposed to quantitative work pays great dividend over time. This magazine is an endeavour in this path to engage you creatively, to get you in touch with your creative persona, apart from the classroom exercises. As is wisely said-

“All knowledge is within us. The role of the teacher is to eliminate the obstacles to let you know yourself.”

This creative engagement is a step toward this vision of reducing distractions. Wish you all the best!



## From the Editor, BIETians' TECHature: Debangana Das

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The insightful piece on the importance of Humanities and SS “A Lesson from IIT | ‘Why Humanities and Social Sciences are gaining popularity at IITs’” sheds light on the age-old debate on Arts vs Science that have gone on to shape the beliefs of great personas. Although the debates never ceased, it could not deny the relevance of Arts and Literature in everyday life. The inclusion of humanities comes with great benefits- it makes one sensitive and emphatic, contributing to making better human beings. What has that got to do with an engineer or a technician like you? By being more emphatic you will become able to identify the problems that the humanitarian society is facing first-hand. Solving them requires the match of sensitivity and marvelous engineering. This vision is to be achieved by exposing you to the literary aspects alongside the fascinating developments in your field. TECHature, combining Technology and Literature, is an effort towards a sustainable FUTERE.

# Students' corner

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## Revolution phase 1: Gravity

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Once upon a time every country in the world was secretly developing very advance technology and weapon, but they kept it as a secret to other countries in the world. But one country named "Avalon" believed that it is only they that have developed advance technology and also weapons. Avalon tested it on a sworn enemy country named "Esterica" but it back fired, leading to world war-3. This war led to destroying literally every country.

Due to this war innocent people died. Finally with the end of the war, it took away with it what could be termed a civilization; there was no such persona as a politician, scientists, doctor, Engineer and etc. Only a little talented once are alive. Here every boundary of every country was broken due to this world war-3; there no such thing existed that could be called their homes, homeland, or countries. A few that

were living were fighting for food and water. Because of radiation water was contaminated which lead to civil war among the people for food and water. Only strong gets the food and it was like survival of the fittest. After 5 year there was a organization named "Amatarasu" developed where only the strong goes in. People fear them. They command to cultivate food; after cultivation the organization take all the crop and give little amount of it which barely keep them living, it doesn't fulfill their hunger. The organization gave so little that they barely eat two times a day. Some people opposed but they were killed in that very instant. So everyone feared; they obey what the organization say. Every day they held street fight. Bunch of people come and fight and the winner gets to have a meal for one time. When they find good looking women, they take those women by force to have fun with them. This was



the routine.

On a fine day a man named Shourya was roaming by carrying some old books and he was very hungry. He couldn't bare the hunger and eventually ended up stealing food which was kept for the street fight from the organization. He tried to escape but it didn't work. They caught him and they beat him so cruelly that he fell crawling on the ground. He stepped on a secret button which opened a secret underground path. He remained unconscious for the three whole days and when he woke up his injuries were all healed and he was surrounded by so many robots. Robots were calling him young master. Sourya freaked out as he thought he was dead. He thought he was in heaven. On feeling the atmosphere, he eventually realized that he was alive and asked the robots what was happening. One of the robot replied that you were unconscious and with full of injuries. Now you are ok we treated you. Sourya inquired about the place and wanted to know what was going on? The bot played a video. In that video there was a scientist named " Dr. Kethu". He was saying that- "I'm Dr. Kethu. I don't know who would stumble on this video but listen: my country Avalon has been secretly developing biological and nuclear weapons. But I anticipated that each country was doing the same and also I know that if it continues like this it will end up leading to world war 3. So I alone took the responsibility to save everyone from that upcoming disaster. So what you are looking at right now, I set this up all secretly. Before you know anything you should know this: the gravity of our Earth is 9.8 meter per second square and the gravity on the Moon is G/6 of our earth that is 1.633 meter per second square.

So assume that you went to the moon which contain atmosphere and you found that people who belong to moon and they saw you and started attacking you but eventually the result will be human from the Earth will survive. Because if a person jumps on the earth he covers less height but that same person jumping on the moon covers 6 times more height than that compared to the Earth. This same theory will apply for a person's speed, power, acrobatics, floating time on air and etc... so I invented the these machines that can increase the gravity of this room and tried to adapt the effect of the gravity to become the super human but my body is not keeping with it , now I'm nearly good as dead. I'm making this video with the hope of having a successor on this project..." and the video ended.

Now by the help of these machines Sourya increases the gravity way more than Dr. Kethu did and his daily routine is to do pushups, dips, running and etc...in the influence of increased gravity field. He works so hard as if it was his last day. This training continued for five whole years. Finally he comes out from the underground and he wander around. He saw that a girl steel the food but the dogs of the organization saw her steeling the food. They were coming after her. Sourya helped her to escape from the bastards but she went in a different way because she had a little sister to feed the food to. Eventually they caught her. She was fighting them to protect her little sister but she was helpless. On the other side Sourya was there, he was so scared of them but when they went to kill that little girl, Sourya's body moved on it's own to defend the little girl.

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At that every instant he conquered his fear and he became the conqueror of fear. He was so fast that no one was able to see him on each step. The upper layer of the ground bursts into pieces when he throws a little piece of rock. It goes with the speed of bullet and bifurcates the enemies' body. Sourya slaughtered every last one of them.

What happens next? Does he become the savior of the world? Will he be able to change the world?

To know this, wait for the continuation.  
It's not over yet.

-- k. Shiva Shankar  
ECE-C (I year)

The Starry Night, (1889), Vincent van Gogh





## Veil of Faceless Shadows

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In a desolate town where silence echoed through empty streets and destroyed buildings, there resided a man named Asher, an enigmatic anthropologist with a greater curiosity for unraveling the mysteries of distant cultures and ancient origins. Despite his passion for exploration, Asher lived in this forsaken town, its barren streets, and abandoned stores like a melancholic person.

One day, driven by his thirst for knowledge, Asher embarked on a journey to a bustling village located thirty kilometers away. The people moved to the village because of high rents and taxes in the town. This village was known for its warmth and hospitality, but according to Asher, the village was anomalous.

As Asher traversed the village's main thoroughfare, he stumbled upon a heated argument between two individuals outside the government building, the village president

was on his seat under a large banyan tree, with the crowd sitting on the ground and two persons standing in front of the village president.

One was a misanthropist named Dorian and the other was a philanthropist named Lucian. They seemed to be fighting over a crowd who came to the village as a refuge, those people were kicked out of their town because they were built differently. There was a rumor that they turned faceless i.e., their eyes, nose, ears, and mouth disappeared. They scared normal people, especially on the day of the new moon.

Dorian and Lucian, unaware of this news, kept quarreling about whether the crowd had to be allowed into the village. Dorian was against the crowd living in the village, but Lucian wanted to welcome the crowd into their beautiful village. Dorian was worried about the supplies that he might fall short of. Lucian had faith that he could allow them to stay.

The dawn turned into dusk but there was no

conclusion. So, the head of the village called it a day and asked the crowd to stay in the community hall.

Night descended, casting a veil of darkness over the village as tensions reached a fever pitch. All the villagers went to sleep but Dorian and Lucian were still awake. After a few hours, eerie murmurs emanated from the community hall where the outcasts sought shelter. Both of them rushed to see what was happening. They found the outcasts walking on the streets making strange sounds. They went close to the crowd to talk, but then they found that those people had no face, but just smooth skin. In a panic, Dorian and Lucian sought refuge in Asher's dwelling, awakening him from his uneasy sleep. Asher woke

up and saw two people coming to him, as they came closer Asher could observe that they had no face. He then runs away into the dark woods and stumbles upon a figure sitting by the lake, he tries to convey what is happening. He seemed normal and talked to Asher, but as soon as the light went off his face turned pale, and then, when he lit a torch he could see that that person had no face, and Asher fainted.

The next morning, Asher woke up in his bed, back in his lonely town. He couldn't remember how he got there or what had happened the night before, but the memory of those faceless people haunted him, and he couldn't shake the feeling that there was something very strange going on in that village.

-- I KEVIN  
CSE B (I year)

The Persistence of Memory, (1931), Salvador Dali



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## A Dream come True

Feelings that once were hidden  
Are now expressed to you.  
Days that once were stormy  
Are now the brightest blue.

Times that once were lonely  
Are now filled with pleasure.  
All that once was mine alone  
Are now things we both treasure.

Nights that once were cold  
Are now comforting and warm.  
Fears that once were very  
real  
Are now gone with the storm.

A heart that once was broken  
Can now finally mend.  
A person once alone in life  
Can now call you a friend.

Dreams that once were longed for  
Are now all coming true.  
The love I once thought was  
gone I have now and forever in you.



— Renu Kumari  
CSE B (I year)





Photo credit: K Manideep Reddy, CSE D  
(11 year)

## From Orientation to Graduation: My college story

It was 2021, time to start my B. Tech journey. I entered into B. Tech 2nd year directly after completing my diploma in “CIVIL ENGINEERING”. I got a seat in college, quite unexpectedly. So began the journey.

18th Sept, 2021- was the time to enter college to submit my certificates. Entering through the gate I found my most precious companion. We didn't expect that deeper companionship to be built between us in these three years. That's my friend Dharani. We hope we continue our companionship for our life time.

25th Oct, 2021, first day of my college, where I met my other fellow mate Kirti and all my buddies. Started sharing our journey since then- our feelings, emotions etc. We waited or the evening to come, as it would bring

along with it the scope to play volleyball. The ground which had me especial memories, made me meet my MECH friends.

This journey, full of twists and turns, made me notice changes in my life; one where there will be no parents to wake one up in the morning; new place, new faces, roommates, no Mom's rules and regulations. But, B. Tech life never ends without fun, cry, laugh and pain; it's a bag full of emotions. It never ends without especial senior in bus and in our department; they are not simply seniors, they are friends; making a new memory at every turn of the adventurous journey. Yet, this is incomplete without special lectures; my special lecturers (Rupasree Mam, Nikhil Reddy sir (who is more than a lecturer when he guides us as a friendly mentor).

Photo credit: K Manideep Reddy, CSE D  
(II year)



Important special lecturer Govind Mohan sir (means a lot to us, who encouraged me, gave me a path; teaches very differently, made a hard subject easy; is a friend, motivator... etc. Other special lecturer Appal Naidu sir, Sai Jeevan sir and at the end of my 3rd year I meet dynamic lady lecturer Gayatri mam, who handles everything perfectly. Special thanks to our HOD Venugopal sir for supporting us in every moment.

B. Tech life feels incomplete without bunking classes! (Disclaimer! This is not to be followed). We also created adorable memories by bunking classes, which makes us cry, laugh and feel emotional whenever we remember it.

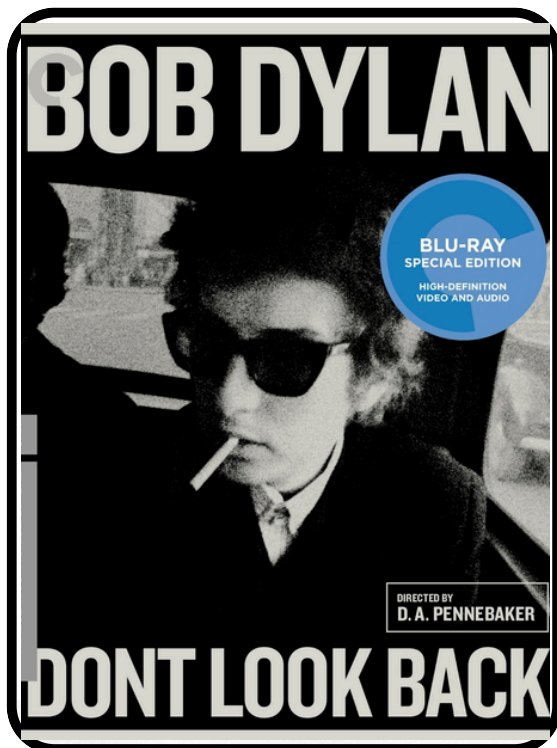
Whenever I look back at the days spent in

this topsy-turvy, I am reminded of the practical, theoretical, and the field experiences. The new construction building came as an added advantage to us for all the practical knowledge we gained from there, watching our professors at task.

Thanks too to many other teachers, with whom I crossed paths in my college journey.

Finally, entered into the final year with lots of happiness, pains, fights and sought outs; experience in life B. Tech life taught me many lessons. With full of project pressure and what next after B. Tech many questions start rising along with the struggle for placement. Finally going to be a graduate in the month of June, 2024 with all the precious moments, memories and learnings.

--Jyothirmai Vakiti  
CIVIL (IV year)



## *PQP* *Culture*

Dont Look Back is a 1967 American documentary film directed by D. A. Pennebaker that covers Bob Dylan's 1965 concert tour in England.

In 1998, the film was selected for preservation in the United States National Film Registry by the Library of Congress as being deemed "culturally, historically, or aesthetically significant". In a 2014 Sight & Sound poll, film critics voted Dont Look Back the joint ninth best documentary film of all time.



Whenever I look back at the days spent in this topsy-turvy, I am reminded of the practical, theoretical, and the field experiences. The new construction building came as an added advantage to us for all the practical knowledge we gained from there, watching our professors at task.

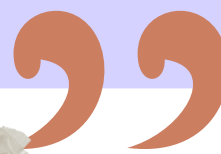


Photo credit: Debangana Das  
(Editor, Dept. of English)



## Reading Habits:

The distinction between an efficient and an inefficient reader is so definite and clear-cut that we can graphically chart the differences in two contrasting columns. Think of your own reading habits and techniques as you examine the following chart. In which column do you most frequently see yourself mirrored? Take a pencil and checkoff your characteristics as you meet them.

### THE INEFFICIENT READER

Reads slowly, generally 250 words a minute or less. Check here if you think this applies to you.

Reads all material, of whatever type or difficulty, at an unvarying rate.

Reads word by word or, in extreme cases, syllable by syllable.

Makes many "regressions"—that is, rereads syllables, words, or phrases to assure himself that he has seen and understood them correctly.

### THE EFFICIENT READER

Has a cruising rate of at least 400 to 500 words a minute. Check here if you think this applies to you.

Varies his rate according to the type of material—goes faster on easier material, on narrative stretches, on paragraphs of supporting details, etc. Suits his speed to what he wants to get out of material.

Reads for ideas, is rarely conscious of individual words.

Skims or skips unimportant words, paragraphs, sections, or even whole chapters.

-Norman Lewis

Try to understand yourself as a reader and take on the task of reading widely to become better at the art. Refer to the following task as an instance.

## Reading Journals:

### WHY SHOULD YOU READ JOURNALS?

It would open up vistas for you and connect you to like minded people. Might click your curiosity for an idea that is in its infancy, waiting to be developed. You might be the ONE taking it forward!

### HOW SHOULD YOU CHOOSE A JOURNAL?

A sample is provided for you. You may as well visit your departments and discuss with your profs.

To read more like the one provided here, visit NA 307, pick up "XRDS".



# What is the Role of a Computer Scientist in Shaping a Sustainable Future?

It is becoming increasingly difficult to ignore the warnings of a disrupted climate system, from melting ice caps to species extinction. But the problems are so far removed, and so large, we often wonder what does this have to do with our work as computer scientists?

*By Elina Eriksson*

DOI: 10.1145/3265901

I have a confession to make: I am an environmental weirdo. You read that right. An environmental weirdo computer scientist. That was not always the case. Don't get me wrong, it is not that I did not care earlier in my life. I have been rationally aware of environmental problems since my childhood, I have been buying organic food and environmentally labelled products, and as any good Swede, I have sorted my waste diligently. But something happened when my first child was born, the world shifted on its axis, and someone other than myself became top priority. The things I had been aware of rationally, become emotionally important. Like the future. And as a computer scientist, and a researcher in human-computer interaction (HCI), I wanted to engage with this future to

make it more sustainable. So, I have slowly transformed my life, from an HCI scholar with a high-carbon footprint to an engaged educator of ICT and sustainability. Today I am a sustainable HCI researcher and an environmentalist who tries to find new ways to lower my personal carbon footprint even more.

## STATE OF THE PLANET

To start at the bottom, right now, if you dare to look at the facts, we are not in a favorable position. We are already overstepping several planetary

boundaries [1], with the risk of pushing Earth out of the relatively stable geological time epoch that we have been in for the last 10,000 years. This has been a time period under which we have domesticated animals, starting with agriculture, and built civilizations. Moreover, we are experiencing what is considered the sixth mass extinction of species [2], comparable to when the dinosaurs disappeared, but happening much faster today. We will, within our lifetime, face some of the most difficult problems humankind has ever encountered. Perhaps

one of the most pressing is the ever-increasing levels of carbon dioxide (and other greenhouse gases) in our atmosphere, leading to increasing global average temperatures and a disrupted climate system [3]. Many of the effects of climate change are placed in the far future, but already we are seeing changes in terms of rising sea levels, a slowing of the Gulf Stream, and more frequent and violent hurricanes, heat waves, and wildfires. The problems that need to be addressed are vast, global, and inherently wicked, there are no simple solu-

tions. This might feel overwhelming, and perhaps you just want to push it away from your consciousness, perhaps you think it is someone else's problem. But it is not someone else's problem. We as computer scientists have been part of shaping the present, and we have an even more important role to play in shaping the future.

#### **DIRECT AND INDIRECT EFFECTS OF ICT**

So, what does computer science and ICT (information and communication technologies) have to do with sustainability? To begin with, there are direct environmental effects of ICT from the manufacturing, using, and disposing of electronic equipment. This includes material extraction, energy in manufacturing and use, chemicals, and e-waste. There are of course also major issues around social sustainability connected to this. For example, many of the metals used in mobile phones are mined in conflict areas, where profits fund rebel groups who perpetuate violence [4]. Equally, there are large environmental and social issues around the informal handling of e-waste in developing countries. People are without protective gear, disassembling and burning ICT equipment at the risk of their health, and handling acids to dissolve materials that are then disposed of into nature. However, informal handling of e-waste has become a livelihood that many cannot afford to lose, so simply banning it would lead to other social problems [5]. Furthermore, most of the materials used in ICT are non-renewable resources. With current non-circular business models, we risk running out of some materials within the next 30-50 years according to some estimates, an example of this is copper. As such, the direct effects of ICT are always negative, we can however lessen the environmental impact by efficiency measures and more circular life cycles where we repurpose, reuse, and recycle our equipment to a higher degree. There are initiatives already underway. Stockholm-based TCO Development certifies sustainable IT products; Fairphone builds a modular, repairable, and fair phone; and there are organizations working for circular commons of digital devices enhancing the reuse of

## **The ICT sector has the same carbon footprint as the aviation sector. But computer scientists are uniquely positioned to change the industry from the inside.**

ICT [6].

On the other hand, the indirect effects of ICT on our environment can be both positive and negative. The range of indirect effects are large and hard to entangle. ICT has crept into every nook and cranny of modern life, to such a degree that we hardly see it anymore. A tangible and material hobby, like my fondness for knitting, is suffused by ICT. When buying the yarn my financial transactions are handled by computers, the store probably use an ICT-based inventory system, and they order new yarn using computers. Moreover, I search for new patterns online, using YouTube videos to understand the intricacies of new techniques. I boast about my accomplishments on social media. These are practices that only partly existed before modern computing. And even though my transactions, my time watching a video, or my use of social media is only marginal when it comes to energy usage and carbon emission, our combined global use of ICT amounts to a large environmental impact.

#### **ABATEMENT POTENTIAL**

Although many of the indirect effects of ICT are negative, there are also high hopes of using ICT to reduce environmental impacts in sectors other than ICT. Often used examples are dematerialization, optimization, and digitalization. Dematerialization refers to the process of replacing a material intensive practice into one where a digital version is used. An example of this is how we listen to music, a practice that used to depend on materials

such as plastic (most recently in the form of CDs that had to be pressed and shipped around for us to enjoy our favorite boy band). We now depend on a virtual record being stored and streamed through a cloud service. Optimization refers to using computing to optimize other processes, such as transportation or manufacturing, so less energy and resources are needed. Digitalization refers to us using digital services instead of material services or practices. For example, with ICT we can have virtual meetings through video conferencing lessening the need for carbon-intensive travel. This is all abatement potential, and researchers are working on modeling how large this potential is. However, tapping into abatement potential is not straightforward, since when you change a system, changes will have ripple effects.

One set of indirect effects that are hard to predict, but often happen, is rebound. As it sounds, it is something that returns and bites your back. Rebound is often explained using a highway example. Imagine a road that have congestion problems. By building a new lane, there would be more space for the cars and hence less congestion. However, what often happens is travel on the expanded highways becomes faster through the use of the new lane; more people start driving to work, which soon makes the lane overcrowded and leads to new congestion problems. If there is not simultaneously some measure that curbs the use of the freed-up space (or resources, or energy, etc.), the efficiency gain is soon lost. Rebound can be found everywhere, and an example closer to ICT could be entertainment. It is easier to stream video content instead of watching broadcast TV. We stream more for longer thus leading to higher energy costs. Another example is when we make electronic equipment more energy efficient, or use less materials. Items become cheaper, more people can afford them, so more are manufactured with a high material throughput.

#### **THE ROLE OF THE COMPUTER SCIENTIST**

All these issues presented might feel somewhat distanced from what a computer scientist is doing, at least if



you consider yourself a programmer. Within computer science education, sustainability has not been a core subject so far. But I believe it will become more important in the coming years, as the world and humanity will have to address more and more pressing issues around planetary boundaries and climate change. As such, we need to expand the boundaries of our systems and reconsider how our systems will affect not only our direct users, but other stakeholders, the biosphere, and coming generations. As I see it, these changes need to happen on many levels in society, and in many ways we have a role to play. Here I will present some of them.

**Changing the industry.** The ICT sector has the same carbon footprint as the aviation sector, but computer scientists are uniquely positioned to change the industry from the inside. One example (besides the more obvious of making code that is less energy consuming) is to look at the vicious circle of software and hardware development. ICT hardware have the largest environmental footprint due to manufacturing and transport to the consumers. In a sense, your ICT equipment comes with this huge backpack of bad stuff, and however much you pull the plug of your charger, energy savings will never amount to anything compared to this backpack. Hence, the best users can do is to keep their electronics for as long as possible. However, this strategy is undermined by the problems that come with new software updates, which make your device obsolete after a couple of years. Your mobile phone or computer might not be broken in any direct sense, it is just not working anymore. Meanwhile the software updates are in turn a response to new hardware, which is pushing the software companies to be up to date. Working with changing this circle to something more virtuous—by making sure that backward compatibility is possible, for example—would have a large positive impact. Furthermore, business models that encourage long lasting use of both hardware and software is also needed.

Just as important is a shift to renewable energy, reuse of heat from data centers and server halls, and better re-

cycling of materials. Already the industry is working with making server halls and data centers more energy efficient, using natural cooling and renewable energy. But other interesting prospects are rethinking the models of how data centers are built. For example, rather than being energy efficient, can data centers or our internet be energy agile instead, making better use of intermittent renewable energy?

**Broadening the scope.** Within both practice and research there are already initiatives that are engaging and inspirational for computer scientists. Researchers in the field of sustainable software engineering have developed the Karlskrona Manifesto.<sup>1</sup> In the manifesto, which is a living document, the signatories (which could be you, me, or your employer) acknowledge that “[s]ustainability design in the context of software systems is the process of designing systems with sustainability as a primary concern, based on a commitment to [the Karlskrona Manifesto] principles” [6]. Sustainable software engineering researchers are looking at, among other things, how sustainability could be included in the requirements engineering process. Within my own field of HCI, there is a growing community of researchers engaged in sustainability issues, what is known as sustainable HCI (SHCI). Research within this field is widespread and diverse: Some of the work is focused on interactive systems that can help people to change their practices or behavior; some of the work is more speculative or critical, inviting people to reconsider what we are taking of granted and envisioning alternative futures. I believe the work becomes most interesting when we transcend disciplinary boundaries to start collaborating with other research fields and support trans-sectorial cooperation with other organizations.

## ENDING ON A PERSONAL NOTE

Working as a researcher with a focus on computers and sustainability is sometimes a struggle, our horizon is often not on par with the issues we would like to address. However, our

competence and our work will be needed if we want to steer in the direction of a more sustainable future. Even though there are changes needed at higher levels of society—a reconsideration of the economic system or more global governance of common resources like the atmosphere—we need to work on all levels at the same time in order to achieve much needed changes as fast as possible. In my darkest of moments, when I think that my research is not far reaching enough, or my personal choices do not amount to anything, I take comfort in all the brilliant and creative students I meet in my role as a teacher, and how wholeheartedly they engage in sustainability issues in my courses. They will enter the ICT industry and bring a critical and engaged stance with them, and they are my greatest hope for a better future.

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## Biography

Elina Eriksson is an assistant professor in human-computer interaction at the department of Media Technology and Interaction Design (MID), and associated with Green Leap, at KTH Royal Institute of Technology. Her research concerns sustainable lifestyles and explorations of energy futures. Moreover, she is interested in the social construction of denial and wants more people to engage in sustainability issues—even if it hurts.

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<sup>1</sup> <http://sustainabilitydesign.org/>

## Bemusement

### Vocab Bucket:

1. Survival of the fittest
2. desolate
3. thoroughfare
4. inquired
5. resided
6. stumble on
7. anomalous
8. refuge
9. anthropologist
10. traversed
11. bifurcate
12. philanthropist
13. barren
14. veil
15. eerie
16. fever pitch
17. emanated
18. unraveling
19. misanthropist
20. bot
21. forsaken
22. descended
23. melancholic
24. dwelling
25. haunted
26. outcasts
27. abandoned
28. topsy-turvy



Look for the words in the "Students' corner" of BIETians' TECHature. Find out the meanings and put them to use while speaking and writing, and see your vocabulary GROW!

## Puzzle: Zeroise Me

A long worm crawls into a cosmetic veterinary surgery, complaining of a problem with 1's. A worm can be thought of as a string of 0's and 1's and the most beautiful worm is 00000...0.

The procedure for removing 1's is complicated. If there is a 1 at the right hand end (where the tail is), then the surgeon can remove this 1 and place a 0 or a 1 at the left hand end (where the head is). If however there is a 0 at the right hand end then the surgeon can remove it, but he has no control of what appears in its place at the left hand end.

The surgeon claims a 100% success rate. Do you believe him?


Source: The Puzzle Toad

*If not,  
Ask your  
Prof's :)*

#StaRtThe  
CONVO

### Did you come across (the)-

- ◆ World's highest Railway bridge  
The Chenab Rail Bridge: An Engineering Marvel
- ◆ China is sinking ◆
- ◆ Chat GPT vs Google Gemini  
Crop of the year: IYM 2023 ◆
- ◆ The 'interim' Budget  
India's first underwater Metro ◆



**Invitations are open for the next issue.**

**Poetry**

**Short story**

**Essay**

**Photography**