



Fourth Issue SLATE 2022

SLATE

Silicon Language for Arts Technology & Education

Our Vision: "To become a center of excellence in the fields of technical education & research and create responsible citizens"

From the Editor's Desk...

Dear Readers:

A cellular smart phone in an academic setting reminds one of a well-known phrase, infinitesimally modified, as "You can't live with it, you can't live without it."

The 'mobile' has become such an integral part of an academician's life that it is almost unfathomable to think of existing without one. It is intricately linked to the daily lives of students and faculty members alike, albeit in different modalities.

For a student it is a life-line; all academic and social interactions are via the phone, including checking attendance and downloading documents from the ERP, reviewing lecture notes and other pertinent study material. While studying in the library, a majority of students prefer reading from the phone instead of a book. And as regards social media interactions, *Instagram, Facebook, Snapchat, WhatsApp* and a whole slew of such pages are visited daily with unerring regularity.

For a faculty member, being associated with different 'official' *WhatsApp* groups is part of the job, as often important communications are done via them. For FA activities, a vital link between students, parents and faculty members designated as advisors, the phone is indispensable.

Quoting Stephen Johnson in *lifehacker.com*, who writes, "I spend too much time looking at my phone. You do too. Everyone does. This is by design. A massive, worldwide experiment in human consciousness is being conducted right now, and no one knows how it will end." This pretty much sums up how inextricably the phone is tied in with our everyday lives, how obsessed we are with it, and the relatively few choices we have.

This issue has the usual mix of student articles, regular forums including health watch, mental health, my cyberspace and alumni speak, all presented in an esthetically pleasing form. Wish you happy reading and hope you enjoy this issue of *SLATE*!

Dr. Jaideep Talukdar
jaideep@silicon.ac.in

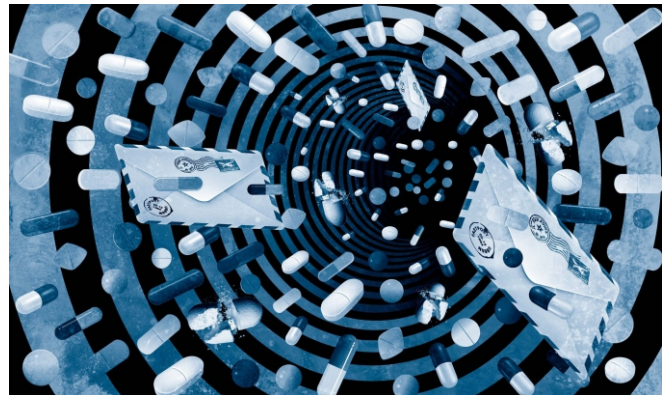
EDUCATING US

Net Drugged

Social media is a platform that enables communication with others through internet access. Social media has grown to be a valuable tool for students in the recent years. Teenagers enjoy utilising social media, and they already entirely rely on it to communicate with one another. Kids and teenagers alike are proficient with mobile devices and social networking websites. This new generation has developed an addiction to technology.

The development of social networking sites has made the life of the teenagers more amusing. Facebook is currently the most widely used social network out of all of them. In a 2012 report published by *Hindustan Times*, it was said that "India crossed the 100 million internet user mark." According to the HT poll, 52% of respondents have more than two profiles on one social network, and 24% use social media on a daily basis. The use of social media by youth has dramatically increased. According to observations, keeping in touch was the primary reason people used social media, although the outcomes seem wildly unfavourable.

When users get dependent on these websites, they begin to live primarily online and have far less in-person interaction with others. The virtual reality sector is expanding quickly. The market's worth surpassed \$90 million in 2014, according to statistics. The sum reached 5.2 Billion USD by 2018. The majority of us lack social interaction and fulfilling personal connections because we are so immersed in the virtual world. In this virtual



environment, it seems as though people get lost. People who were dependent on their phones frequently exhibit withdrawal symptoms similar to drug addiction when they are not using them. They turn angry, remain frequently sad, and occasionally contemplate suicide. Additionally, while trapped in the never-ending cycle of this virtual world, people frequently encounter blackmail, misuse of personal information, cyberbullying, body shaming, and other forms of abuse. According to the estimates, 4 people commit suicide each day as a result of cyber bullying. This is neither a trivial sum nor a trivial problem.

Some adolescent users become so dependent that they begin posting about their daily life on social media platforms. These websites become more essential to them than their education, family, friends, and recreational activities, which negatively affects their academic performance.

Social media may be a blessing and help people make new friends, increase their interpersonal connections, and aid them with their studies if used responsibly. However, if used carelessly, they can have disastrous effects on a person's personal life.

Abhinav Kar
6th Sem, ECE

HEALTH WATCH

Being Emotionally Expressive

"Your emotions are the slaves to your thoughts, and you are the slave to your emotions."

– Elizabeth Gilbert

Have you ever been in a situation where you are feeling all the emotions at the same time? You feel anger, regret, happiness, sadness, and so many other things. Human beings are social beings who move through a sea of emotions. Emotions have been crucial to human progress throughout time. Our brains evolved emotions millions of years ago to transmit reactions to certain stimuli and aid in the species' survival. Emotions are part of our everyday lives. Sometimes, it can feel like our feelings control how we think and act to the point where we feel like we are not in control.

We are all wired to communicate our feelings. There are three things we can do when we experience emotions: either we allow ourselves to express them and let them go, or we suppress them, or we pay close attention to them, allowing them to fester inside of us and lead to a variety of issues. Whether we express our feelings or not, our bodies are programmed to feel them. Grief, rage, or delight is a natural reaction to all the events our brains digest each day.

A healthy life requires the ability to express emotions. It helps us release negative emotions. It stops the fight-or-flight response that triggers so many health issues. Additionally, by expressing our feelings, we can regain control over our thoughts and relieve the stress that frequently overwhelms them. When we take control of pressure, we can put our minds at ease and focus on more meaningful things that bring us joy and happiness.



According to studies, emotional expression has a beneficial and protective structure, and suppressing or avoiding it can have negative consequences. Emotional repression has adverse effects on physical, psychological, and cognitive processes. It may hurt mental health and restrict the expression of genuine feelings. Due to this circumstance, the person may feel that their feelings and behaviors are incompatible and may negatively judge their emotions. People who experience emotional suppression are more likely to experience adverse moods, negative cognitive styles, and depressive symptoms. This is because they are still thinking about the circumstances that revealed their present emotion.

Emotional expressivity plays an influential role in physical and psychological well-being, social relations, and personality. Individuals with high emotional expression levels express their positive and negative emotions clearly. Depending on how and with whom the feelings are shared, communicating emotions can have a significant impact on a person's well-being and connections with others. There is evidence that when people go through crisis and trauma, expressing their emotions is a coping strategy that results in more excellent mental health after the incident and plays an influential role in physical and psychological well-being, social relations, and personality.

Manas Ranjan Padhy

5th Sem, CEN

MENTAL HEALTH:

Perceive your emotions RIGHT

"Cherish your own emotions and never undervalue them." Robert Henri

Emotion, the integral part of human life, occupies a significant place in navigating the path one chooses. One's emotions strongly shape the likes and dislikes, academic interests, relationships, and the social responsibility one manifests. On the contrary, if one fails to perceive and express the emotions right, it has its negative impact. As per one study in the *International Journal of Psychotherapy Practice and Research* (2019), an ongoing reliance on concealing or suppressing emotion is a "barrier to good health".

From the childhood it remains as a common practice to be vocal about the material requirements and to ignore and suppress the naturally occurring emotions. People are not too sure about how they feel. Because the wrongly perceived emotions lead to misleading expressions from a highly overwhelming state to an apathetic state. Humans as emotional creatures must use emotions for themselves, not against them. Some suggestions to comprehend emotions in life are:

- Acknowledge the emotion you experience.
- Inculcate a habit of tuning in to how one feels in different situations throughout the day.
- Rate how strong the feeling is in a 1-5 scale.
- Then choose a rational way to express the emotion with right kind of words and share with the trusted and significant ones.
- Own your own emotions

Do accept and acknowledge both the positive and negative emotion as it will help in better understanding of self and others, and in improving *the coping mechanism and decision making in life situations*.

Dr. Saswati Jena

Counselling Psychologist, SIT-Bhubaneswar

MY CYBERSPACE

Cryptojacking

Cryptojacking, also known as Malicious Cryptomining, refers to a threat which involves unauthorized use of people's devices/computing resources to mine for Crypto Currency. It gets embedded to a mobile device or computer to gain access to the resources of the device. They have the ability of hijacking devices like desktops, laptops, mobile phones, network servers and cloud infrastructures as well.

These codes work in a stealth mode without the knowledge of the victim. The only indicators are execution lags, slower performance, excessive heating and power consumption, abnormally high electricity and cloud bills. Though crypto mining is a legitimate process but it requires a lot of computing power & energy which makes it an expensive process. Hence these miners gain access to devices and transfer the mining overhead by stealing computing power and energy.

Cryptojacking was ranked as the 3rd most prevalent cyber security threat in 2021. Some of the prominent attacks involved victims like U.S. Defense website, UK Government websites, Russian nuclear facility supercomputer, Los Angeles Times Homicide Report page, YouTube ads and free apps in Microsoft's app store. Cryptojackers use two main modes of attack. One is web browser based where in the attack embeds the Cryptomining software on a website that runs when a victim visits that website. The second one is host-based attack that uses malware which gets downloaded onto a victim's device.

We can protect ourselves from such threats by using anti cryptojacking browser extensions, using ad blockers, disabling java script, blocking infected sites and conducting a software composition analysis.

Dr. Sushree Samita Rout

Associate Professor, CSE Dept.



Er. Gyana Ranjan Biswal, Assistant Professor, Dept. of EEE, received Meritorious Performance Award in Odisha State Energy Conservation Award-2022 in the category of Educational Institutions

on behalf of Silicon Institute of Technology, Bhubaneswar. In this interview with Anshuman Mishra, EEE, 3rd Sem, he talks elaborately about the award.

Anshuman: Sir, Congratulations on receiving the award. Please tell us about this Energy conservation award.

Er. Biswal: Thank you very much. This energy conservation award is organized by the Department of Energy, Office of Engineer-in-Chief (Electricity)-cum-PCEI and State Designated Agency (SDA), Government of Odisha, every year and being given to different category of institutions, commercial buildings, etc on the occasion of National Energy Conservation Day, 14th December. This time, our Institute got Meritorious Performance Award in the category of Educational Institutions.

Anshuman: What exactly is this award given for?

Er. Biswal: We know very well that in the present scenario saving energy is very important. So, this is a good initiative taken by both the central and the state governments to give this award to those who are taking initiatives towards energy conservation and efficient measures by implementing energy saving projects.

Anshuman: What are the energy conservation initiatives taken by our institute?

Er. Biswal: Towards the energy saving and efficient measures we started by replacing all fluorescent and incandescent lamps into LED bulbs. This has

IN CONVERSATION WITH ...

Er. Gyana Ranjan Biswal

been done in all street lights and all lecture and conference halls. By this we can save significant amount of energy by reducing the wattage rating of lamps. Then we started replacing the induction motor ceiling Fans into BLDC motor Fans and replacing non-star or 3-star rating ACs into star-rated or 5-star rated ACs.

Anshuman: Can roof-top solar plants also save energy?

Er. Biswal: Actually, by installing roof-top solar PV plant, one can generate energy for their own consumption, the excess generation can be sent to grid. So, in the long run, you can save energy and money.

Anshuman: Has any such plant been installed in our institute?

Er. Biswal: Yes. We have three roof-top solar PV plants installed on the roofs of the Academic Building, Boy's hostel and Girl's hostel. The total installed capacity is 302 kW. At present, almost 30% of energy requirement by the institute is coming from the plant.

Anshuman: How did you apply for the energy conservation award?

Er. Biswal: Our campus engineer Mr. Avishek Mishra helped me a lot in collecting all the data as required by them. Finally, we compiled all the data and sent the required file as given by them.

Anshuman: Finally, what is your message regarding energy conservation?

Er. Biswal: Our institute started taking many initiatives to save more energy as well as using efficient devices to achieve this. But my message to all is that, everyone's role is important in saving energy, starting from a small thing like switching off appliances when not in use. Young researchers and students should come up with innovative ideas towards saving energy, which will definitely solve a major problem coming ahead, that is, energy crisis.

Chilika Diaries ... *Chilika Re Jalapari*



Recently, Silicon Institute of Technology, Bhubaneswar got an amazing opportunity to cover an event at Chilika organised by the Veterans Club of Odisha (VCO). The event named “Chilika Re Jalapari” was organized on 13th November 2022 at Balugaon Jetty where Miss Jiya Rai, an autistic teenager, and Child Prodigy in the field of swimming, a recipient of Pradhan Mantri, Rashtriya Bal Puraskar added to the glory of the event.

She had once expressed her willingness to create an awareness of protecting the birds at Chilika. With this intention this event was organized in which Jiya swam a distance of 21 km in 3 hrs and 52 minutes in Chilika to promote her cause. The event attracted students from different schools and colleges as the audience. Jiya's parents and several eminent personalities of the state were a part of the event to support her efforts of saving bird-life at the natural lake.

At Silicon, a team of 30 students was formed to cover the event which included event presenters, photographers, reporters and event associates. Mr. Sabyasachi Mitra, a student of the Silicon Photography Club (ECE, 8th semester), under the aegis of our lead photographer Mr. G. Madhusudan covered the event live from behind his lens. Our alumnus Mr. Akash Dash of 2022

graduating batch had been instrumental in providing technical assistance in the live coverage of the event over media handles.

It was a wonderful experience for all of us. Our journey had in fact begun from the Silicon campus itself where we did a lot of research about Chilika and were briefed about the event by the VCO members. Back at Chilika, the photographers' team woke up early in the morning wearing life-jackets and were present at the starting point of Jiya's journey even before sunrise to capture every moment of the event through camera clicks and drone images. This team travelled the entire distance (from the start to the finish point) on a boat accompanying Jiya while she was swimming in Chilika.

At the Jetty, the team of anchors and reporters made a live coverage of the event with all enthusiasm, cheering Jiya on her success.

Some of the prominent and honourable guests from the state, Mr. Tusharkanti Behera, Minister of State (Independent Charge), E & IT, Sports & Youth Services at Government of Odisha, and Commanding Officer of INS Chilika Commodore N. P. Pradeep felicitated Jiya and expressed their joy of being part of such a glorious event. The vote of thanks was proposed by Er. Nitai Gaur Dhall, working trustee at SiliconTech, who spoke about the motive of the event and thanked those who took time to attend it. He thanked the various institutions that were a part of this wonderful event, the guests, and especially Ms. Jiya Rai for creating awareness that served multiple purposes. It was an unforgettable experience for the entire team to be a part of Jiya's expedition at 'Chilika Re Jalapari'.

Manas Ranjan Padhy
5th Sem, CEN

STUDENTS' CORNER

The Passion of a Mother

Undoing the wraps, unboxing the box
 they searched for presents!
 This time it was a crescent,
 All her pain vanished when she heard him cry!!
 She kissed his forehead,
 With a try!
 Was she a lover??
 No, she was a mother!!!
 She cried, it was the tears of joy!
 She was the mother of a cute little boy!
 The pain she went through was
 the darkest of nights,
 But her baby was the angelic light!!!
 She would shine bright every time
 she looked at his face!!!
 It was like she found her solace!!!
 These feelings are special not for all but for some,
 She considered herself the luckiest,
 She was the new mom!
 Her face had a charm,
 Every time she took her little one
 to her arm!!

Nishigandha Tripathy

3rd Sem., ECE

Disillusionment of an Underdog

Each person tends to view the world through the prism of one's own problems and idiosyncrasies. The world of sublimity eludes many as they pass through different stages of life. The deviation from their resolutions makes them all scattered when their vanity to show their powers fail, they take refuge near the Lord. But spirituality comes to them too late. The urge for power, position and pelf, blindfolded them and hindered their sight of spiritual pursuit. They are swept away by the prevailing current of their mundane existence. Limba, sitting on the rock overlooking the Hamlet,

ponders over his state of affairs. The patch of the slope on the hill side where he was yielding crops like maize, millet and turmeric have been fenced by the company people for mining operation. The firewood he collected from the lower valley was seized by the guards in the forest. They have got a notice to shift their houses to somewhere else. Where will they go? What are the means of subsistence?

The sun was sinking on the western horizon with all its splendor and majesty. Soon darkness descended on the valley. Limba could see a band of Red Brigade approaching towards the big rock to go down to the other side of the valley. At first he was frightened, but lo! ... there was Samba with a bag on his back and a gun on his shoulder passed by him, Limba murmured, but couldn't utter a word. He came back and shared a bowl of rice with his sister Lessi. As the night advanced, he hurried to the base camp of Samba. The camp leader with his rank and file stopped him. Limba found they had made a fire and some of them were cooking some food. Limba found a Ray of hope and back to recruit him in their brigade Life was rigorous and pains taking. But the bare necessities of life were not out of reach. Very soon he adapted with the new life of struggle and vengeance. A week passed in a new contingent of Red Army Camp on the Niyamgiri Hillside. Their camp was short-lived. The company people, with their modern equipment and machineries occupied that place. The work started. The Red Brigade had to sift their hideouts. But they had their eyes on the manager who was stationed in the rest house of the company about 5 km away from their site. Time rolled on. Limba was trained with all firearms. The chief of the brigade gave him the task of attacking the manager and looking at the money which was under his disposal. One evening, while the manager was on his way to the company rest house, the Red Brigade attacked and looted him. Limba was on the run. The police force made all the efforts, but he eluded them. He came to the

outskirts of the nearby city. The sermons of the Red Brigade's philosophy echoed his mind and rubbed his wound raw. But in this place, he had to remain underground.

While passing through a narrow lane he discovered that the road led to a multi-storied building. He noticed the sign board indicating the housing of Niyamgiri Mining Project Office. His eyes were fixed on the man he attacked. Limba became more intuitive and sensed a secret deal was going to take place between the manager and the so called political leader of that locality. The deal was over with the disappearance of the politician with a brief case.

Limba was not mistaken, the same local leader, Bibhu Marandi was transacting the deal. The bizzariness of the promises he made to the people during election time disillusioned him. The picture loomed large in his memory lane. These predators are sucking blood of the innocent people who face the brunt of their greed for money, power and position.

They embezzle the public fund and enrich themselves and their camp followers. The Government embarks new projects for the well being of the people. But the benefit which reaches the poor is like a tip in the iceberg.

But in this new avatar, what can he do? He shall realize all these dramas are not real but illusion leading to despair and hatred. How this problem can be solved? The Lord who is witnessing everything remains undeterred, perhaps leaving everything to actions (karma) and their consequences.

Sayed Mahenoor
3rd Sem. CSE

Bullying

How many times in school have we witnessed abuse? Or, how many times did we notice a group of teenagers surrounding a kid and using their power to threaten him or her? We often run into

this kind of incident and decide to turn a blind eye to it. But in reality, these are matters of utmost importance and should be addressed seriously. To be precise, we need to tackle "Bullying" efficiently.

So, what is "Bullying"? Bullying is defined as a person's act of hurting, frightening, and displaying their power over someone less powerful, forcing them to do something they do not want to do. Cases like these come before us during our school or college days, at our workplace, or at any public place. Bullying can be of many types: someone can verbally abuse, taunt, a person or physically hurt or torture them, or can psychologically hurt them, or can use social media to degrade or embarrass them. Often, school bullying and digital bullying are the most common ones.

Bullying has become one of the most critical problems of the decade. It can have a profound effect on an individual's mental health. It can leave a person with long-term trauma that manifests in their behavior. Their morale and confidence are lowered. And often that can be seen when they have to deal with a crowd in their friend circle, or in various relationships. They may suffer from depression and be anxious at times, and a change in sleeping and eating patterns can be noticed. Additionally, an increased sense of sadness and loneliness may be felt.

It is high time to take these issues into consideration and act accordingly. We can stop bullying by raising our voice against it, by educating people on that topic, and by teaching our children not to be one. The person facing this issue must seek help, speak out for themselves, and should report it. It is our duty to stand up against bullying. And in cases of cyberbullying, we can report the bully or block them.

Akankhya Sahoo
3rd Sem, CSE

ALUMNUS SPEAKS

Maitrayee Mahapatra, our alumna from the 2012–16 batch, ECE, is currently a cybersecurity specialist and senior consultant at Larson and Toubro's Infotech. In this interview with Abhinav Kar of 6th semester CSE, she shares her experiences in her area of expertise.

Maitrayee's domain is cybersecurity, that is, the protection of computer systems, networks, and information from unauthorized access, theft, or damage. This includes measures to prevent and respond to cyber-attacks, data breaches, and other cyber threats. The cybersecurity domain encompasses various sub-fields such as network security, cloud security, digital forensics, encryption, and risk management. The goal of cybersecurity is to maintain the confidentiality, integrity, and availability of digital assets and systems, ensuring the safe operation of critical infrastructure and sensitive information.

Maitrayee says, those who are interested in pursuing a career in this field should:

1. Stay informed by staying updated with the latest developments and trends in cybersecurity by following industry publications, attending conferences, and participating in online forums.
2. Get hands-on experience: Participate in hackathons, internships, or certification programs to gain hands-on experience in various aspects of cybersecurity.
3. Build a strong foundation and acquire a solid understanding of key concepts and technologies.
4. Pursue certifications such as CompTIA Security+, Certified Ethical Hacker (CEH), and Certified Information Systems Security Professional (CISSP).
5. Stay ethical and maintain a strong sense of ethics and professional conduct when working



in the cybersecurity field.

6. Learn continuously since the cybersecurity field is constantly evolving.

Maitrayee says "my advice would be to get involved in as many experiences as possible while you're still in school. Take on leadership roles, participate in internships, and network with professionals in your field. Additionally, don't be afraid to step out of your comfort zone and try new things. You never know what opportunities may come your way".

INVESTING IN THE FUTURE OF ENERGY



'Every 24 hours, enough sunlight touches the earth to provide energy for the entire planet for 24 years', writes the versatile world-famous author, Martha Maeda. To mention the exact figures given by the US Department of Energy, each hour 430 quintillion Joules of energy reaches the earth from the sun. On the other hand, the total amount of energy used by our planet in one year is 410 quintillion Joules.

To ensure the optimum usage of this energy, we need to adapt innovative techniques to successfully tap this energy.

'Beyond Teaching' being the SiliconTech mantra, the institute practices what it preaches. It has taken numerous initiatives for energy conservation. The most beneficial of them is the installation of Rooftop Solar Photo-Voltaic (PV) power plants on campus.

SiliconTech has four solar PV plants on campus. The first two solar plants were mounted on the rooftop of the Academic Building in 2016. Each of these plants has a capacity of 37kW. In 2021, two additional solar PV plants were fitted on the rooftop of the Boys' Residence and Girls'

Residence with the installed capacity of 111.5 kW and 116.5 kW respectively. Together with a capacity of 302 kW, these PV plants generate a total of 3,52,770 kWh energy every year. The power generated from these PV plants account for 25 to 28 % of the institute's total energy requirement. In the past five years, the connected load of the Institute has increased by 152 kW. However, this increased load is compensated by the two PV plants set-up in 2021.

SiliconTech's efforts for energy conservation are recognized and rewarded at the state and national level. The Institute received the Odisha Energy Conservation Award (OSEC) 2022 by the Department of Energy, Government of Odisha on 14th December 2022, which is also celebrated as the National Energy Conservation Day. Furthermore, a two-member team from Greenviro Solutions, Mumbai conducted the green, environment and energy audit in the campus in November 2022; the team applauded the institute's commitment for undertaking various measures for environmental protection and energy conservation.

It is undoubtedly a remarkable feat for any technical institute to meet a quarter of its energy requirement from solar PV plants. Moreover, the electricity produced from these plants is carbon-free. Also, solar energy is being called as the future of energy since it is renewable, cost-effective and environment friendly. Given the present scenario, investing in solar energy is equivalent to investing in the future. SiliconTech has already begun on the path of securing its future - when will you begin?

Sweta Mohanty
Assistant Professor, (BSH)

Publication Cell

Silicon Institute of Technology

Silicon Hills, Patia, Bhubaneswar, Odisha, India - 751024

Tel: +91 - 9937289499, 731499499

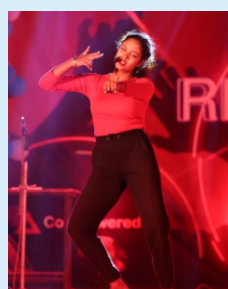
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SIT-Bhubaneswar
An Autonomous Institute
Silicon Hills, Patia
Bhubaneswar - 751024



SIT-Sambalpur
An Affiliated Institute
Silicon West, Sason
Sambalpur - 768200

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