

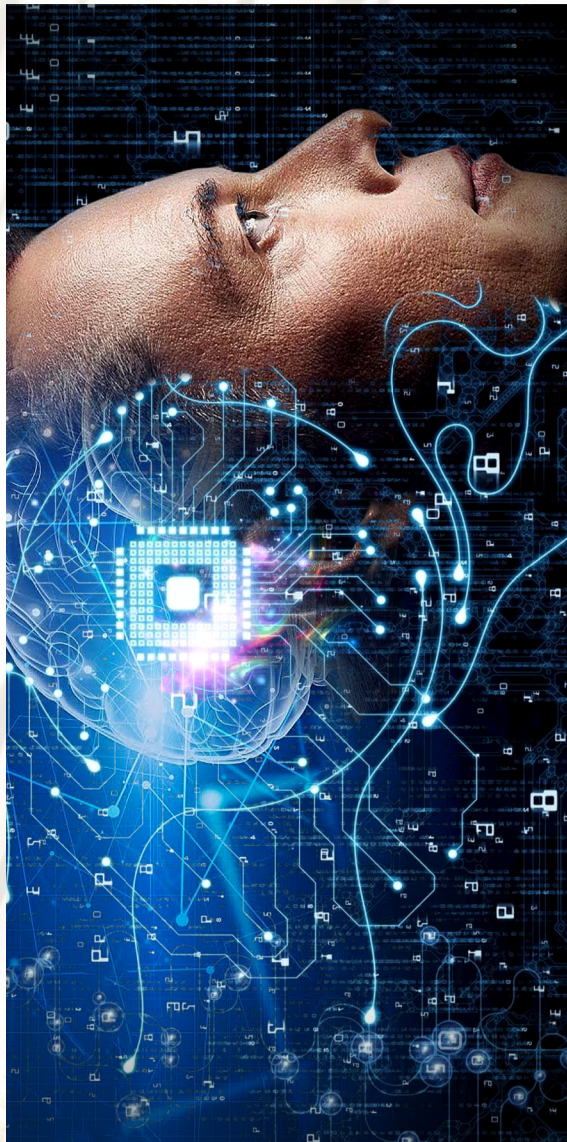
### VISION OF CSE DEPARTMENT

“TO BE A NATIONWIDE RECOGNIZED DEPARTMENT THAT PRODUCES VERSATILE COMPUTER ENGINEERS, CAPABLE OF ADAPTING TO THE CHANGING NEEDS OF COMPUTER AND RELATED INDUSTRY”.

### MISSION OF CSE DEPARTMENT

- .TO IMPART QUALITY TECHNICAL EDUCATION WITH SKILLS, KNOWLEDGE AND ATTITUDE TO SUCCEED IN COMPUTER SCIENCE & ENGINEERING CAREERS.
- .TO PROVIDE KNOWLEDGE OF EMERGING TRENDS IN COMPUTER AND RELATED INDUSTRY AND FOSTER AN ENVIRONMENT OF LIFELONG LEARNING.
- .TO DEVELOP GRADUATE ENGINEERS WHO INVESTIGATE RESEARCH, DESIGN AND FIND WORKABLE SOLUTIONS TO COMPLEX ENGINEERING PROBLEMS WITH AWARENESS AND CONCERN FOR SOCIETY AND THE ENVIRONMENT.

## ELON MUSK'S- HUMAN BRAINS WITH CHIPSET-HUMAN OR ROBOT!!



ELON MUSK'S COMPANY NEURALINK HAS BEEN EXPERIMENTING TO CONNECT SCIENCE WITH MEDICINE, RAISING NEW HOPES FOR THE LIVES OF PEOPLE WHO HAVE BEEN CRIPPLED BY ALZHEIMER'S, DEMENTIA, SPINAL FRACTURES.

NEURALINK HAS BEEN TESTING NEURAL INTERFACES ON ANIMALS FOR YEARS. IN A VIDEO RELEASED LAST YEAR, NEURALINK ALSO TESTED THIS CHIP ON GEEK PIG. NEURALINK SHOWED HIS ABILITY TO RECORD AND PREDICT ACTION BASED ON A WIRED CHIP PLACED IN THE PIG'S BRAIN IN THAT VIDEO. NOW MUSK'S COMPANY IS GOING TO USE ITS EXPERIMENT ON HUMANS.

ELON MUSK'S 'MIND-READING CHIP' WILL BE 10 TIMES SMALLER THAN A HAIR FOLLICLE. THEY WILL BE USED IN COMPLEX TASKS SUCH AS BRAIN SURGERY. THIS DISCOVERY IS AT AN EARLY STAGE, BUT IT IS BEING CONSIDERED AS AN IMPORTANT STEP TOWARDS CONNECTING THE HUMAN MIND WITH ARTIFICIAL INTELLIGENCE. THE NEURALINK COMPANY HAS SO FAR TESTED THIS PARTICULAR CHIP ON 19 TYPES OF ANIMALS. THE COMPANY HAS SAID THAT ITS TESTING SUCCESS RATE IS 87 PER CENT. ALTHOUGH IT IS CONSIDERED IMPOSSIBLE TO CONNECT AI WITH THE HUMAN MIND, ELON MUSK IS KNOWN FOR MAKING IMPOSSIBLE FEATS. EVERY SCIENTIFIC DISCOVERY HAS TWO ASPECTS. ANY POWER CAN BE MISUSED AT ANY TIME. IN SUCH A SITUATION, SUCH QUESTIONS ARE ALSO BEING RAISED ABOUT THIS PROJECT. BECAUSE IF A HUMAN MIND IS TAMPERED WITH AND CAN BE GIVEN COMMANDS THROUGH A COMPUTER, THEN IT CAN BE USED FOR SINISTER PURPOSES. EVEN THOUGH THE PROJECT IS STILL IN ITS INITIAL STAGES, PEOPLE AROUND THE WORLD ARE EXCITED TO KNOW WHAT THE ENDGAME WOULD BE LIKE.

**BY- RAHUL SINGH. CSE 3RD YEAR SIT**

## SEMINARS

- 1.WEBINAR ON INNOVATION & ENTREPRENEURSHIP-POST COVID
- 2.SEMINAR ON HOW TO SHAPE A CARRER IN CYBER SECURITY
- 3.LIVE PROJECTION ON AI & ML WITH G MADAKASHIRA, SENIOR VP, VIRTUSA
- 4.WEBINAR ON ENTERPRISE ARCHITECTURE AND AWS
- 5.WEBINAR ON CHANGING SKYLINE OF NORTH BENGAL
- 6.WEBINAR IN AI, BLOCKCHAIN & SMART FACTORIES
- 7.WEBINAR ON COVID 19 AND MENTAL HEALTH
- 8.WEBINAR ON SYSTEM DESIGN
- 9.WEBINAR ON VIRTUAL INDUSTRY VISIT WITH RECENT INDUSTRY TRENS AND SENARIO
- 10.SEMINAR ON WEB DEV WITH NODE JS
- 11.WEBINAR ON FUTURE OF EDUCATION POST COVID 19 IN NORTH BENGAL

## **VSPEECH.AI'S ML MODEL**

Ahmedabad-based VSpeech.ai was founded in 2015. The startup sensed an opportunity while working with Interactive Voice Response (IVR) call centres.

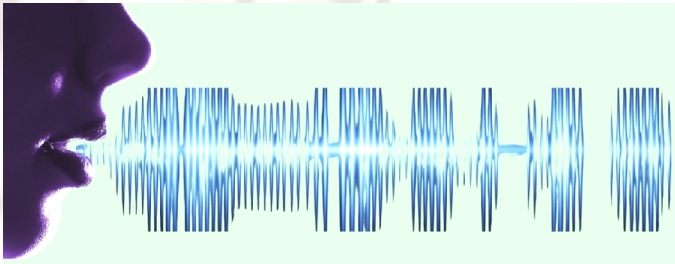
The company uses an advanced 8 KHZ Mono Engine to understand mixed-language inputs accurately.

Vspeech.ai runs on its own proprietary machine learning tools, which includes domain-based neural networks, generative adversarial networks and TensorFlow-based AI tools. The tech stack involves natural language understanding components on top of NLP/NLU libraries. VSpeech.ai builds its own supervised learning methods. The company owns server infrastructure and also has a parallel GPU system to train models, VSpeech.ai has also built its own IPA system to understand spoken and written languages effectively.

The software is delivered through HTTP/HTTPS, and Socket APIs. Vspeech.ai executes thousands of call transcriptions per day on scalable AWS infrastructure and deploys multiple API on different nodes. Most backend API is in Python and Node.js.

VSpeech.ai owns 75% of the market share in the voice solution segment in India.

**DIDHITI RAJ CHAKRABORTY. CSE 2ND YEAR. SIT**



## **HUMAN AUGMENTATION**

Technologies that enhance human productivity and improve or restore capabilities of the human body or mind are an area of computing we refer to as human augmentation. Advances in such technologies are empowering, offering improvements to human health, quality of life, and functional performance.

Other types of human-augmentation technologies work with specific IT resources including the cloud, big data, and mobile computing. These include wearable devices such as watches or bracelets that link the human body to external sources of visual, audio, or text-based information.

### Types of Human Augmentation

Human augmentation can be further divided into three main categories with different functions:

**Replicating human ability:** Human augmentations that restore or replicate typical human abilities fall into the category of replication. This includes things like prosthetic limbs for the disabled, hearing aids for the deaf, and voice synthesizers for the mute.

**Supplementing human ability:** Human augmentations that improve our ability to do something fall under the category of supplementation. This includes devices that artificially increase our strength, enhance our sight beyond normal limits, or increase our intelligence.

**Exceeding human ability:** Human augmentations that allow us to do things that we cannot do on our own fall into the category of exceeding augmentation. This includes things like the ability to fly, breathe underwater, see ultraviolet or infrared light, and smell chemicals not currently detectable by the human olfactory sense.

Many parts of the human body can be augmented, but here are few examples that show some of the directions augmentations can take:

EksoWorks creates exoskeletons for industrial and rehabilitation purposes. Their products are devices that users wear on their body (typically from the torso up) for artificial strength and endurance. These devices come in multiple variations for different tasks, to help users in areas like construction, auto manufacturing, and even physical therapy.

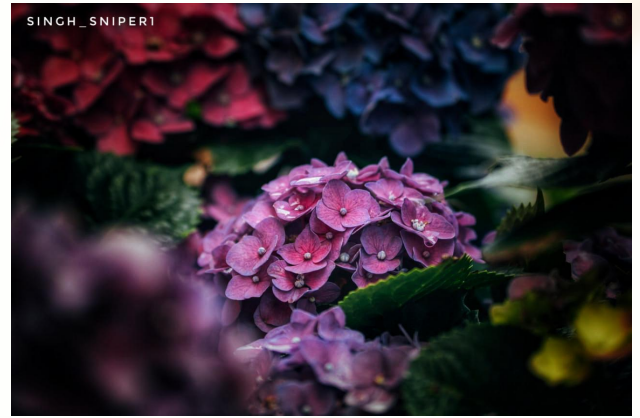
The Teslasuit is a wearable outfit that can control the wearer's temperature, provide haptic feedback, and track the wearer's movements. While this tech is currently being used for VR immersion, the ideas that have gone into its development can be translated easily into the realm of augmentation.

Skylight, a platform by Upskill, has partnered with Google to create smart glasses for aviation engineers. The glasses aid in the tightening of B-nuts, which are a critical component of jet engines. These nuts have to be tightened perfectly or the engine could fail. The Skylight glasses can detect when a worker is tightening a B-nut, and they use a wi-fi connected torque wrench to determine when a B-nut has been tightened perfectly.

Brain-Computer Interfaces (BCI) are interfaces that allow an individual to interact with a computer or machine using only their mind. While most of this technology is still conceptual, the possibilities are limitless. BCI is about sending information to a computer and allowing humans to receive new types of information from their computers in return.

**NAYAN KUMAR SINHA . CSE - 2ND YEAR. SIT**

## **PHOTO GALLERY**



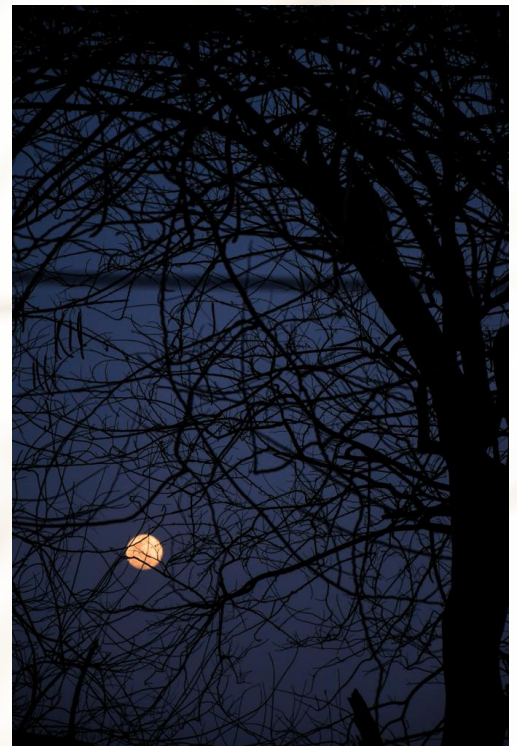
**RAHUL SINGH CSE 3RD YEAR**



**SUBHADEEP KUNDU CSE 3RD YEAR**



**AGNIVA SENGUPTA CSE 2ND YEAR**



**DEEP DHAR CSE 2ND YEAR**

# PUBLICATION UPDATE

## LIST OF RECENT PUBLICATIONS:

- 1: Sumit Banik, Sagar Banik, Aniket Ghosh, Anupam Mukherjee, "Probabilistic Estimation of COVID19 using Patient's Symptoms", International Conference on Machine Intelligence & Data Science Applications (MIDAS 2020), University of Petroleum and Energy Studies (UPES), Dehradun, Uttarakhand 248007, India, September 2020, DOI: 10.1007/978-981-15-9873-9
- 2: Anupam Mukherjee, Anupam Ghosh, "Heterogeneous Decomposition of Predictive Modelling Approach on Crime Dataset Using Machine Learning", International Conference on Innovation in Modern Science and Technology (ICIMSAT 2019), 20-21 September 2019.
- 3: Anupam Mukherjee, Sourav De, Siddhartha Bhattacharyya, "Chicago Crime Data Analysis Using PIG in Hadoop", 4th IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN 2018), <https://ieeexplore.ieee.org/document/8718725>
- 4: Anupam Mukherjee, Sourav De and Siddhartha Bhattacharyya, "Indian Crime Data Analysis in Hadoop Framework", 7th International Conference on Computing, Communication and Sensor Network (CCSN 2018), 2018.
- 5: Anupam Mukherjee, Sourav De, Siddhartha Bhattacharyya, "A Survey on Big Data: An Emerging Imparity and Revolution in DigitalWorld", International Journal of Hybrid Intelligence (IJHI), 2019. DOI: 10.1504/IJHI.2019.103575
- 6: Satadal Chakraborty, "Elastic Window for Multiple Face Detection and Tracking from Video", Advances in Intelligent Systems and Computing (AISC) Series, Springer, CIPR 2019: International Conference on Computational Intelligence in Pattern Recognition, 2019, IEST, Shibpur
- 7: Mithun Roy, "Most Influential Node Selection in Social Network using Genetic Algorithm", Fourth International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), 2018, IEEE, ISBN: 978-1-5386-7638-7, RCCIT, Kolkata
- 8: Mithun Roy, "Overlapping Community Detection using Clique Proximity and Modularity Maximization", Fourth International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), 2018, IEEE, ISBN: 978-1-5386-7638-7, RCCIT, Kolkata
- 9: Sutapa Bhattacharyya, Dhrubasis Sarkar, "A Study on Information Diffusion in Online Social Networks" Proceedings of International Conference on Frontiers in Computing and Systems, Advances in Intelligent Systems and Computing, vol 1255, Springer, Singapore, pp 279-288(2020)

## GLIMPSES OF STUDENTS ACHIEVEMENTS



## ALUMNI SPEECH

The healthy environment of Darjeeling and the competitive environment of the college provided me with a subtle learning platform which has helped me to develop a keen interest in learning technical things. Currently, I am working with McAfee, I am very lucky that I am a part of this institution, which provided me with a platform to reach here. All the professors are very helpful here and they guided me all the time in every situation. Different sessions and events have boosted my confidence to a great extent. At last but not least I would like to mention that this institution has provided a lot of confidence and courage to face difficult situations in life. These four years have given me memories as well as friends for life which I can never forget. It's just an awesome and unforgettable journey of my life.

MAYANK MISHRA

CSE- 2018 PASS OUT BATCH



## EVENTS ROAD MAP



**BASANT UTSAV 2021**



**SWARASWATI PUJA 2021**



**MEDHA RATNA UTSAB**



**OUTREACH PROGRAM 2020**



**NETAJI JAYANTI**



**REPUBLIC DAY 2021**



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