



THE SILVER OAK TIMES

Education to Innovation

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Idea to Product

A Research Pathway for Students

IEEE Signal Processing Society always strives to keep the members acquainted with the latest technology and research ideas. Conducting research is a significant component for the advancement of scientific thinking. Research helps guide numerous decisions that can turn an idea into an innovation, and the initial step to getting started in the research domain is to explore the different research areas. So, with the sole perspective to explore the field and understand the complete process for writing a research paper, IEEE SPS Silver Oak University Student Branch Chapter had organized a webinar under the title of "Idea to Product: A Research Pathway for Students" in collaboration with IEEE SPS Pune Chapter.

Mr. Ramneek Kalra- IEEE impact creator focused on what Project Based Learning is and what are the essential elements of Project Based Learning. Alongside, the speaker discussed some real-time problem statements and the concept of 5Ws for finding the problem and its solution. Furthermore, he provided a complete explanation on how to select the perfect team and tech stacks for any project. He also discussed the in-depth research survey, prototype development, various methodologies, and how we can secure the research papers by filing the patents. Lastly, he provided insights about some platforms such as IEEE Author Center, IEEE Xplore, and Sci-Hub, which are beneficial in writing the research papers and exploring the research papers for reference purposes. The interaction between the mentor and participants had made the session more engaging and lively.

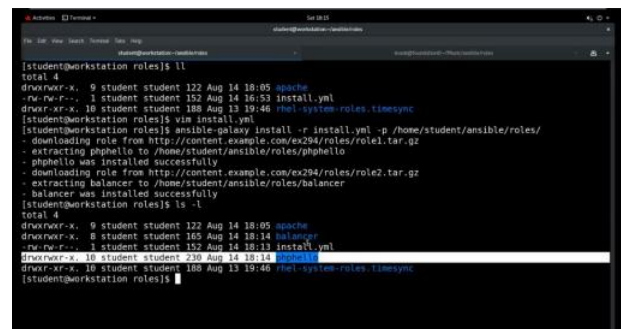
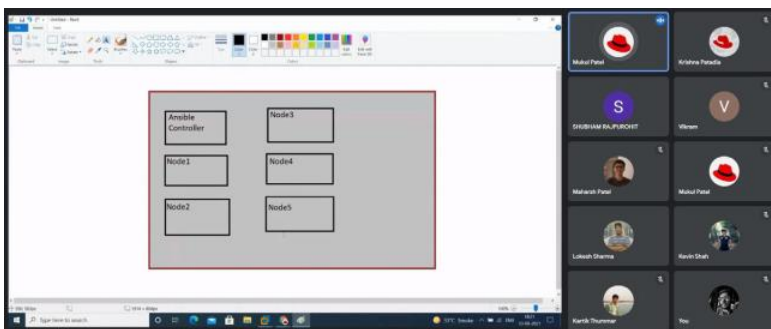


Red Hat

Certified Engineer Training Program

Red Hat Certified Engineer credential helps one to demonstrate skills critical to managing systems in a DevOps environment. One of the key tenets of DevOps is automation and the RHCE is an extension of the knowledge required to automate the deployment, management, and support of multi-system environments – making your credential even more valuable and relevant. The performance-based Red Hat Certified Engineer (RHCE) exam for Red Hat Enterprise Linux 8 tests one's knowledge and skill in managing multiple systems using Red Hat Ansible Engine and executing common system administration tasks across a number of systems with Ansible.

Our final year students of Computer Engineering Department, SOCET have sharpened their technical skills in the world of Open-Source Technology by opting for one of the most valuable international certifications - RHCE (Red Hat Certified Engineer) after getting RHCSA certificate. A total of 16 students have set an example by tirelessly giving their whole-hearted efforts throughout their training by overhauling the course contents of RHCE thoroughly.



Soar Like an Eagle

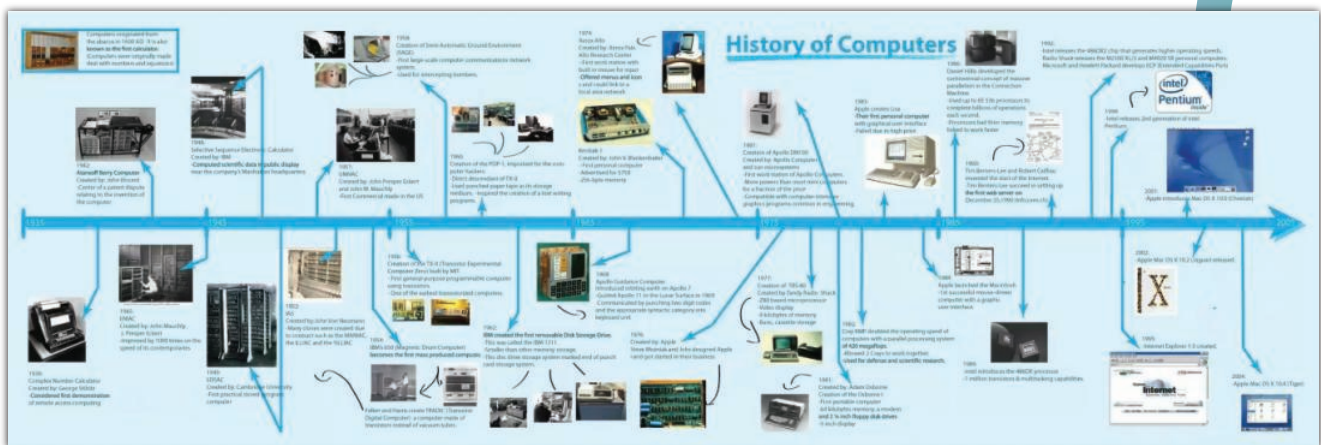
Indian Rosewood Club of Silver Oak University had participated in an event named "Mega ATV Championship" organized by Auto Sports India under the scrutiny of FMSCI. The title sponsors for the event were Auto Sports India and Federation of Motorsport Corporation in India. Along with them there were many other sponsors like; KTM, B&S, Indian Motorcycles, Polaris, CV TECH, HP and Airtel. Around 1500 students of the university had participated in this event and gained exposure in the modern tools of analysis and design. The event had given a platform to the students to communicate and compete with the global level student community.

What's Next??

Talk on Emerging Technology

Our Student Branch aimed to create a better understanding of the emerging technologies from a truly interdisciplinary viewpoint, with a futuristic outlook and hence came up with an event - "What's Next? Talk on Emerging Technology". It was a virtual talk which aimed at the exploration of all the rising technologies of the decade. The main focus was to assist students to gain the gist of growing technologies like AI, ML and Cloud and their true potential. This event was conducted successfully on 19th March 2021. The session was directed by the ambitious personnel Mr Nilesch Vaghela - founder of Electromech Corporation, Ahmedabad partnering with AWS India and RedHat India.

He started off the session with the importance of emerging technologies. He was of the opinion that what's going to happen is always a challenge to think of. He gave the brief of the pipeline and the opportunities that are to come in future. He further mentioned today's foundational technologies and the next generation technologies. He later discussed different driving force technologies such as network, cloud computing, and many more and also explained why databases are important in emerging technology and what the specialized branches are in emerging technology such as artificial intelligence, machine learning, deep learning, etc. and their scope. He motivated students to be a part of the change.



Emerging Technology

- Disruption is new normal

A bar chart with five blue bars of increasing height from left to right, representing the growth of emerging technologies.

Driving force Technology

Viewing Nilesch Vaghela's app...

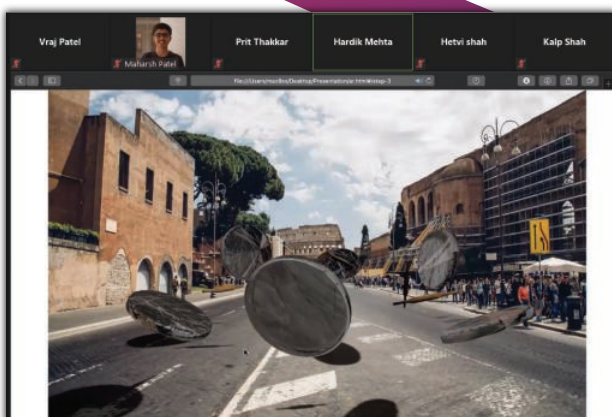
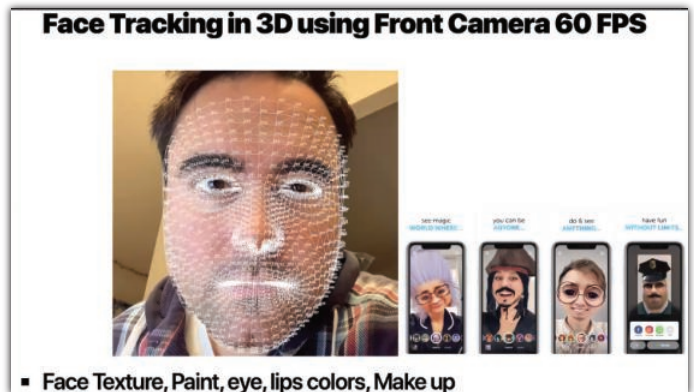
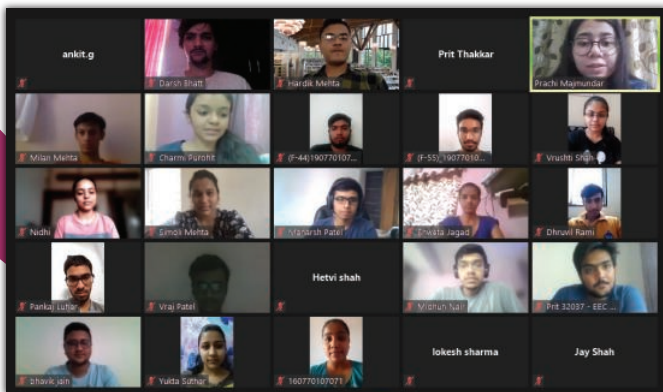
- Network
- Internet
- Virtualization
- Cloud Computing
- Open Source
- Grid Computing
- Connected devices

An illustration of a hand holding a smartphone, with various digital icons like a house, a person, a speech bubble, and a gear floating around it, symbolizing connected devices and digital technology.

THE WORLD OF AR AND 3D SIMULATIONS

Silver Oak University SB has always endeavored to encourage and help aspiring engineers and to cope with technologies that are changing the world. With the same motto, Silver Oak University IEEE WIE AG in collaboration with IEEE WIE Gujarat Section had organized a talk on "Evaluating Immersive Tech (AR and 3D simulations)" on 22nd April 2021 where 80+ participants partook.

The prominent speaker of the session, Mr. Hardik Mehta, has over 12 years of industry experience in building applications and games for all Apple platforms, iPhone, and iPad, Apple Watch, Apple TV and MacOS. He explained what Immersive Tech is and also explained the different aspects of 3D Simulations and Augmentation Reality. He further explained the 3D simulation topics like Mapping 2D to 3D Lights and shadows, multiple lights, cameras and object's viewpoints. The speaker also showed the participants some wonderful animations. Adding to this he then talked about Augmentation Reality in which he discussed World tracking using visual-inertial odometry and how to create 360 videos in AR. He later spoke about how augmented reality is better than spark and other tools and that these can be used in the field of design and visualization, education, e-commerce, mostly in games and entertainment. The speaker ended the session by advising the participants to explore more in the field.



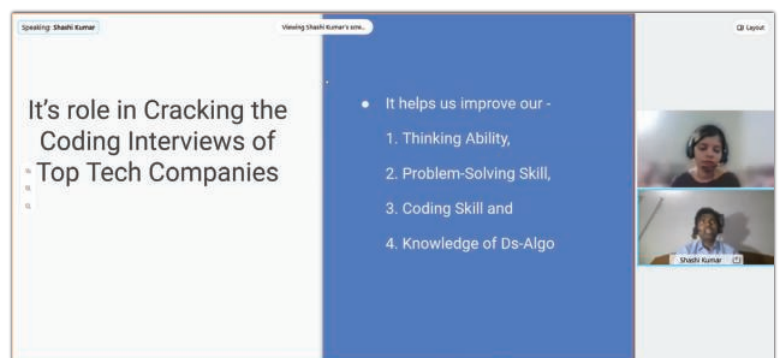
RankUrCode

Roadmap to Competitive Coding

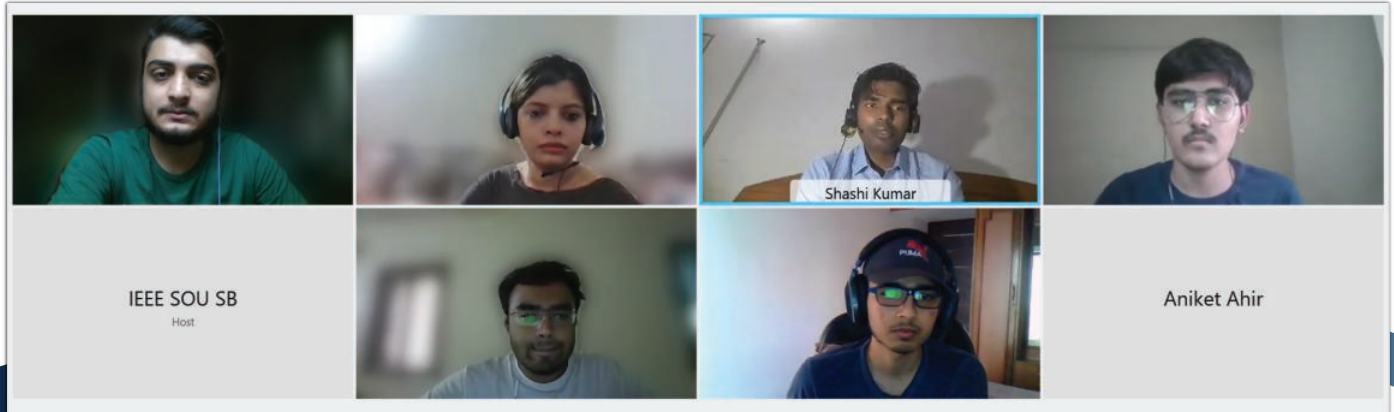
IEEE Silver Oak University SB strived to bring out the best in the students by giving the experience of the finest technology. With the same aphorism, Silver Oak University IEEE Student Branch had organized an event "RankUrCode - Roadmap to Competitive Coding". The webinar was organized to give participants the essence of Competitive Coding, one of the most thriving fields nowadays, and help them explore the Roadmap to Competitive Coding along with its benefits.

For this wonderful session, we had two amazing and experienced speakers Mr. Shashi Bhushan Kumar, Instructor-Coding and System Design, Tech Interview Coach, Ex-tech Lead and instructor at GeeksforGeeks, Ex-SDE at Adobe and Paytm. Accompanying him, we had coding expert Ms. Archy Gupta, Software Engineer at ServiceNow and Ex-Software Engineer at OpenText.

They started with some basic points such as what is competitive coding, role of competitive coding in cracking interviews, how to start competitive coding, and which are the best resources available on the internet. They even shared their learning experience, interview experience and suggested different platforms. He informed that a majority of questions in interviews are asked on coding and the newcomers starting their journey in coding can start with C++, java. The speakers guided and asked all the participants to start practicing coding daily for at least 1-2 hours and shared the free online resources like Codechef, codeforces, hackerrank, leetcode etc. Around 130+ students benefited from the session.

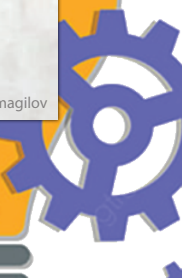
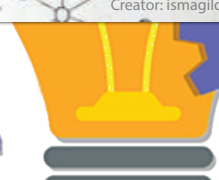


The event concluded with an expert session of questions and answers asked by attendees. And at the end of the session, we thanked our expert speakers Mr. Shashi Bhushan Kumar and Ms. Archy Gupta for this wonderful and enlightening session. We thanked the management of Silver Oak University and Dr. Saurin Shah, Provost, Silver Oak University, Dr. Satvik Khara, Registrar of Silver Oak University and Founding Member Silver Oak University IEEE SB. Last but not least we thanked all the participants for attending this event and making this event successful.



"INNOVATION IS THE OUTCOME OF A HABIT, NOT A RANDOM ACT"

On the 20th March, 2021, ASME SOU organized an event on "An Ironman Suit" which is also called an 'armored exoskeleton'. The speakers of this event had discussed the technical aspects of the field of exoskeleton and armor industry. The session also brought into the limelight about the research on the subject of the current scenario as well as the possibilities of having such incredible technology in the future.



Distribution of OpenVINO Toolkit Training

Silver Oak University's IEEE Students branch came up with an event in collaboration with Intel Corporation - "Distribution of OpenVINO Toolkit" on 26th March 2021 on Intel DevCloud for Edge platform. It was an online Hands-on training session on developing skills regarding the Open Visual Inference and Neural Network Optimization Toolkit (OpenVINO) which is a free toolkit facilitating the optimization of a deep learning model from a framework and deployment using an interface engine onto the hardware.

The session was enlightened by honorable speakers Mr. Sree Harsha, Mr. Girin Pillai G and Ms. Isha Sharma. The hands on training session was started by giving the gist of the topics such as Deep learning interference, Intel edge system, Intel DevCloud to the participants. The much fruitful knowledge was also gained by the participants from the examples like vehicle number plate detection elaborated by the speakers. Live description of a deep learning workbench was also presented. At the last speakers also briefed the program "Intel Unnati" by sharing their insights. During the question-answer session, participants' doubts were clarified by optimum insights of the speaker.

This online training was attended by 205 students of CE, IT, EC branch having computer technologies as their domain. E-certificates and E-badges were also provided to the participants by Intel Corporation.

Supported OS and Install Options [2021.2]
<https://software.intel.com/content/www/us/en/develop/tools/openvino-toolkit.html>

- Operating Systems**
 - Ubuntu 18.04.x long-term support (LTS), 64-bit
 - CentOS 7.6, 64-bit (for target only)
 - Yocto Project v3.0, 64-bit (for target only and requires modifications)
 - Microsoft Windows[®] 10 64-bit
 - macOS[®] 10.15
 - Raspbian[®] Buster, Stretch
 - Red Hat Enterprise Linux (RHEL) 8.2 [NEW]
- Install From Images and Repositories**
 - Git-Hub
 - <https://github.com/openvino-toolkit/openvino-gt>
 - Anaconda Cloud
 - <https://anaconda.org/intel/openvino-rtfpv>
 - Python[®] Package Installer (PIP)
 - <https://pypi.org/project/openvino/>
 - [NEW] PVP project moved from openvino-python to openvino
 - Docker
 - install from image file
 - Download from Docker Hub
 - APT
 - sudo apt cache search install openvino-runtime-ubuntu18
 - YUM
 - sudo install intel-openvino-runtime-centos7
- Intel[®] Edge Software Hub**
 - Edge Insights for Vision

Deployment Toolkit

For Deep Learning Inference

Model Optimizer

- A Python[®] based tool to import trained models and convert them to Intermediate Representation
- Optimizes for performance or space with conservative topology transformations
- Hardware-agnostic optimizations

Inference Engine

- High-level C/C++ and Python, inference runtime API
- Interface is implemented as dynamically loaded plugins for each hardware type
- Delivers advanced performance for each type without requiring users to implement and maintain multiple code pathways

Trained Models: Caffe, TensorFlow, MXNet, ONNX, PyTorch, Keras

Model Optimizer: Convert & Optimize

IR: Intermediate Representation format

Load, infer

Inference Engine: Common API (C++/Python)

Optimized Cross-platform Inference

GPU Plugin: Extendability OpenCL[™]

GPU Plugin: Extendability OpenCL[™]

Intel[®] Plugin for Intel[®] NCS: Extendability OpenCL[™]

HDDL Plugin for VAG[®]

GNA Plugin

GPU = Intel[®] GPU with integrated GPU/Intel[®] Processor Graphics, Intel[®] NCS = Intel[®] Neural Compute Stick (NCS), VAG = Intel[®] Vision Accelerator Design (VAD), GNA = Intel[®] Gaussian Network Accelerator (GNA)

Inference on an Intel[®] Edge System

- Many deep learning networks are available—choose the one you need.

person, sheep, dog

(a) classification (b) detection (c) segmentation

- The complexity of the problem (data set) dictates the network structure. The more complex the problem, the more 'features' required, the deeper the network.

Number Plate Demo

Input Image

Step 1: Inference - vehicle detection

Step 2: Inference - license plate detection

Step 3: Inference - license plate recognition

Output: License Plate Recognition Results

License Plate Recognition Results: 00 00 000 00 000

License Plate Recognition Results: 00 00 000 00 000

Placement Activities

INTERNSHIPS

Internship opportunities at Maruti Suzuki, Larsen And Toubro Limited, GSECL, PSP Project, Concept jeep, Nirma Limited, TCS, Bosch Rexroth, Mercedes Benz, Akash Technolabs, Technotery, Reelflix Media, Aamani Group were shared with students. In total 170 students were sent for internship in 82 notable companies.

PLACEMENTS HIGHLIGHTS

For batch 2021, total 41 companies were invited for campus placement and 168 students got placed. Some of the notable recruiters are KCT Consulting, Espark Info, Caterpillar Signs, Unnati Unlimited, Action Edge, Lucent Innovation, Byju's, Amneal Pharma, Talent Acquaintance, Fasttrack, Teksun, Edwisor, Vikram Engineer, Neosoft, Vetch & other notable companies.

MARCH



Shivam Bhatt
Action Edge



Vipul Singh
Caterpillar Signs



Dhrumil Trivedi
eSparkinfo



Krutika Solanki
eSparkinfo



Chand Raj Maheshwari
KCT



Yogesh Panchal
KCT



Dhiraj Jethani
Lucent Innovation



Milan Prajapati
Lucent Innovation



Shivam Bhatt
Lucent Innovation



Yash Makwana
Lucent Innovation



Jeel Bhatt
Unnati Unlimited



Khyati Shah
Unnati Unlimited



Pakshal Shah
Unnati Unlimited

APRIL



Gauri Puntambekar
Amneal Pharma



Harsh Goyal
Byju's



Kumhar Shyam
Byju's



Shivam Jani
Byju's



**Vinit Tarachand
Devchandani**
Byju's



Jainil Shah
Fasttrack HR



Parth Mukherjee
Fasttrack HR



Dhruvil Sharma
Talent Acquaintance



Jigar Patel
Talent Acquaintance



Santoshkumar Shah
Talent Acquaintance



Sumit Mishra
Talent Acquaintance

MAY



Jankit Shah
Edwisor



**Pathan
Aayeshasiddiqua**
Neo Soft



Rahul Kori
Neo Soft



Dishal Darji
Teksun



Khush
Tekson



Robin Chauhan
Tekson



Tejas Kateshiya
Tekson



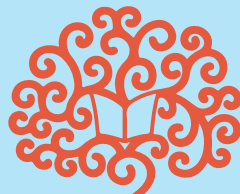
Ankit Prajapati
Vikram Engineer



Akshat Suthar
VTech







SILVER OAK
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Silver Oak College of Engineering and Technology
Aditya Silver Oak Institute of Technology
Silver Oak Institute of Management
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**Opp. Bhagwat Vidyapith, S.G. Highway,
Gota, Ahmedabad - 382481
Phone: +91-79-66046304**

Email: info@silveroakuni.edu.in | Web: www.silveroakuni.ac.in

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