INSPERIA
THE NEWS BULLETINE

Sakeshwar Gramin Vikas Seva Sanstha's

Adsul's Technical Campus,

Ahmednagar

Department of Computer Engineering

Shri Aniruddha Adsul

Chairman

Dr. P.M .Patil

Principal

Dr. H.B. Jadhav

Head of Department

Vision of Institute

To be a most preferred Rural Technical Campus in the region by creating competent multifaceted Engineers and Professionals ready to serve the industry and society at large.

Mission of Institute

To establish state-of-the-art facilities and create a conducive environment for transforming the rural minds into competent, skilled, professional, researchers, technically sound, innovative aptitude, and ethics through value-based education to develop the nation for global competitiveness.

Objectives of Institute

- To provide quality education with futuristic trends in engineering and technology
- To ensure continual improvement in quality management system
- To impart innovative teaching and learning

Vision of Department

To strive for excellence in the field of Computer engineering through creative problem solving related to societal needs.

Mission of Department

M1. Establish strong fundamentals, domain knowledge and skills among the students with analytical thinking, conceptual knowledge, social awareness, expertise in the latest tools and awareness to advanced software.

M2. Establish leadership skills, team spirit and high ethical values among the students

M3. Guide students towards research and development, and a willingness to learn by connecting themselves to the global society

M4. Encourage students to become free-lancers.

Silent feature of Department

- **Supportive learning for placement:** Placement learning is immersive and iterative. Support in the form of formative tasks and activities are crucial for student success, whilst being mindful of the need to ensure parity of student workload between modules of the same credit weighting. Placement assistance can offer students professional guidance and support to help them build successful careers. Students who might feel overburdened by the job search process might greatly benefit from placement assistance services.
- **Value added courses:** Value Added courses are career and market oriented, skill-enhancing courses that empower the students beyond their domain of study. The certificate programmes enable them to enrich their capability and enhance their employability. Value added courses are conducted for one week during the semester breaks by department faculty and external trainers.
- **Career oriented Add-On Courses:** Job-oriented courses are training and academic courses that prepare professionals for a particular career field or role. A traditional academic course may provide an overview of a certain topic or area, but a job-oriented course focuses on the knowledge and skills required for a particular job.
- **Teacher as Mentor:** The role of the Mentor Teacher is a complex blend of modelling, coaching, instructing, collaborating, and encouraging as candidates build competency in program standards. Mentor Teachers are expected to support candidates in developing the skills and knowledge to meet these standards.
- **Report writing and Paper Presentation:** A report is a specific form of writing, written concisely and clearly and typically organised around identifying and examining issues, events, or findings from a research investigation. Reports often involve investigating and analysing a problem and coming up with a solution.
- **Professional Development for Industrial Engagement:** There are three types of employee engagement: **cognitive**, **emotional**, and **physical**. When employees are cognitively engaged, they're committed to their job, when they're physically engaged, they're invested in their work, and when they're emotionally engaged, they have an emotional connection to their work.
- **Personality Development and Soft Skill Training:** Personality Development teaches us how to communicate and display ourselves as having caring skills. It also emphasizes personal management, grooming, health, and nutrition, as well as soft skills. This course educates students on the numerous aspects of self-development. Soft skills comprise pleasant and appealing personality traits as self-confidence, positive attitude, emotional intelligence.

Program Educational Objectives (PEOs)

PEO1: To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.

PEO2: To prepare the graduates to work as a committed professionals with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.

PEO3: To prepare committed and motivated graduates with research attitude, lifelong.

PEO4: To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams.

Program Outcomes (POs)

PO-1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering Programs.

PO-2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO-3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO-4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO-5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO-6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the

professional engineering practice.

PO-7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO-8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO-9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO-11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one‘s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO-12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life- long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO1: Professional Skills: The ability to apply knowledge of problem solving, algorithmic analysis, software Engineering, Data Structures, Networking, Database with modern recent trends to provide the effective solutions for Computer Engineering Problems.

PSO2: Problem-Solving Skills: The ability to inculcate best practices of software and hardware design for delivering quality products useful for the society.

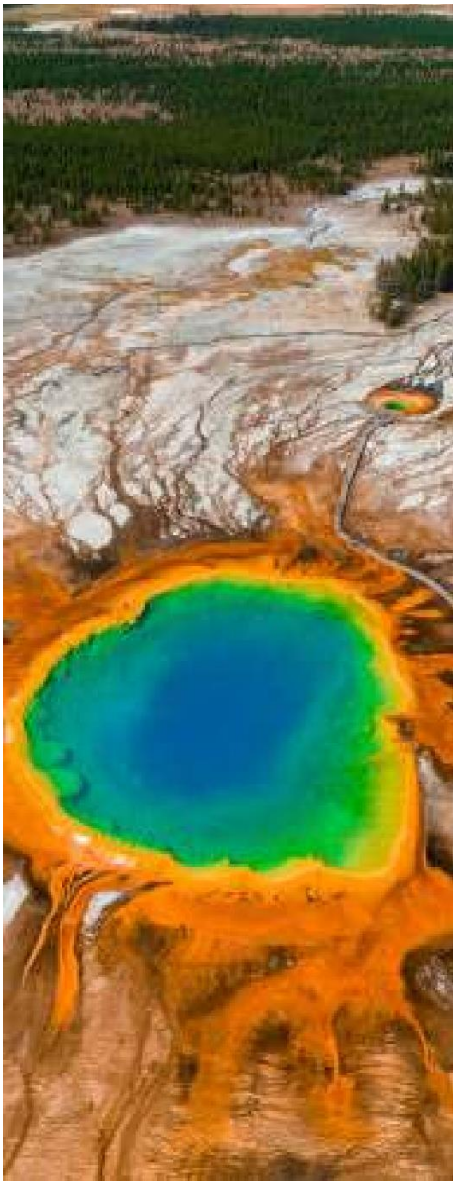
PSO3: Successful Career: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths.

Expert lecture on Parallel Computing

The lecture is designed to accompany an imaginary, virtual, undergraduate, one or two semester course on fundamentals of Parallel Computing as well as to serve as background and reference for graduate courses on High-Performance Computing, parallel algorithms and shared-memory multiprocessor programming. They introduce theoretical concepts and tools for expressing, analysing and judging parallel algorithms and, in detail, cover the two most widely used concrete frameworks OpenMP and MPI as well as the threading interface threads for writing parallel programs for either shared or distributed memory parallel computers with emphasis on general concepts and principles.

Around The World

GRAND PRISMATIC SPRING



Ever wondered what a rainbow-colored

spring looks like?

Grand Prismatic Spring at Yellowstone is a marvel with its kaleidoscope waters that resemble a rainbow. But what might cause these colorations?

The water in the hot springs flows without any interruptionscreating non-stop cycles of hot water rising, cooling, and thenfalling again. Due to this, layers of water with different temperatures are formed in the spring. The layers are formedlike a ring with the innermost ring being at the highest temperature and the temperature reduces as we move outward. As the layers are at different temperatures, theyhouse different bacterias that give the spring its marvelous look. It is Yellowstone's largest hot spring that is 200-330 feet in diameter and it is more than 121 feet deep. The hot watertravels from a crack in the Earth that is 121 feet deep to reach its surface. While it is extremely beautiful, it is extremelydangerous as well. So if u plan to go there, follow all the safety.

-By MARATHE RUPALI DNYANDEV

SE Computer Engineering

Industrial Visit

Industrial Visit to V3 Data Solutions, Nashik

Date: 09-10-2021

Resource Person:

Mr. Ganesh Suryawanshi, Chief Operation Officer, Nasik

Quiz Competition “Aptitude Test”

Prize Distribution

ARTIFICIAL INTELLIGENCE

Artificial Intelligence-Face Recognition Ever wondered how it is done while unlocking your phone or watching it in movies? It is a basic application of AI and quite simple too, all you need is some basic knowledge of Python.

OpenCV is an open-source python library that provides tools for Computer Vision. Having said that, have you wondered what is the data type of an image or a video? Let's find out... OpenCV helps in image manipulation like converting your image from a BGR scale (Blue-Green-Red scale) to Grayscale images or helps to increase certain pixel values in the picture, blur the images or sharpen them, resize the images, background removal, and object detection in addition to face detection and recognition. All this can be done not just with images but on videos and live feeds from webcams as well.

But how is it done?

A computer reads the image in the form of pixels. Each pixel has 3 channels for the colors blue, green, and red which range from 0 to 255.Different combination of these values produces different colors. Manipulating these pixel values, we can make changes in the picture and also, perform recognition based on these values.

Since an image is stored in the form of pixels, the data type of an image is a NumPy array of these pixel values. Using Numpy, we can modify our images in OpenCV. Face detection can be done by detecting the eyes, and nose of a person, and then Recognition can be done by measuring the distance between the eyes, the shape of the face, and other such factors.

Iris recognition for Aadhaar card verification, and face locks in our phones are some basic examples of Face and Object Detection and Recognition using OpenCV

-by Shinde Pranjali Popat

SNAPSHOTS