ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY, MOODBIDRI

BETA CAE SYSTEM MOU

Activity Report

2023-24

ANSA SOFTWARE TRAINING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(Unit of Alva's Education Foundation (R), Moodbidri)
Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi. Recognized by
Government of Karnataka.
A⁺, Accredited by NACC & NBA (ECE & CSE)
Shobhavana Campus, MIJAR-574225, Moodbidri, D.K., Karnataka
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Skill LAB Time Table

Sl. No	Date	Time	Syllabus
1	04-10-2023	4:00PM to 6:00PM	Introduction to FEA Overview of FEA with some basic examples.
2	06-10-2023	4:00PM to 6:00PM	Reading and translation of CAD files and introduction to TOPO menu Main terms of TOPO Menu
3	07-10-2023	1:30PM to 3:30PM	changing FEM disciplines between different menus, Geometry clean up
4	11-10-2023	4:00PM to 6:00PM	preparing model for surface meshing, switch to Mesh menu
5	13-10-2023	4:00PM to 6:00PM	Mesh menu ex: perimeters, macros, mesh generator etc.
6	14-10-2023	1:30PM to 3:30PM	Meshing for sheetmetal
7	18-10-2023	4:00PM to 6:00PM	Middle Surface Extraction approach like Skin and Casting
8	20-10-2023	4:00PM to 6:00PM	Mesh generation and Quality corrections
9	21-10-2023	1:30PM to 3:30PM	Introduction to Part Manager, Property and Material assignment Creating parts, groups and meta data carried from CAD software,
10	25-10-2023	4:00PM to 6:00PM	Collaboration of feature manager with morphing module.
11	27-10-2023	4:00PM to 6:00PM	Handling of sheetmetal features Identification of features and definition of design actions, mesh treatment.
12	28-10-2023	1:30PM to 3:30PM	Connections of Parts Overview of connection manager, different types of weld representation and bolt definition (both 1D and 3D)
13	03-11-2023	4:00PM to 6:00PM	Validation of model and boundary conditions Quality checks
14	04-11-2023	1:30PM to 3:30PM	preparing model to carry out linear load case like SPC,
15	08-11-2023	4:00PM to 6:00PM	load definition (point load and distributed load), header creation and output the file in industry standard solver format
16	10-11-2023	4:00PM to 6:00PM	Meshing for sheetmetal
17	11-11-2023	1:30PM to 3:30PM	Meshing for sheetmetal
18	15-11-2023	4:00PM to 6:00PM	Meshing for sheetmetal
19	17-11-2023	4:00PM to 6:00PM	Meshing for sheetmetal
20	18-11-2023	1:30PM to 3:30PM	Meshing for plastic parts
21	22-11-2023	4:00PM to 6:00PM	Meshing for plastic parts
22	24-11-2023	4:00PM to 6:00PM	Meshing for plastic parts

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BETA CAE Report

As part of the Memorandum of Understanding (MoU) initiative, a three-month internship programme was implemented for students in their last year of study. The following report is presented in a concise manner.

The primary objective of my internship was to develop proficiency in using ANSA Meshing Software, a powerful tool widely used in various industries for finite element analysis (FEA) and computational fluid dynamics (CFD) simulations. Additionally, it's aimed to understand the software's applications and its significance in modern engineering and scientific research.

Internship Activities:

Training and Orientation: Internship began with comprehensive training in ANSA Meshing Software, provided by the experienced staff at BETA CAE System India Pvt Ltd, Bangalore. This orientation introduced to the software's interface, functionalities, and capabilities.

Mesh Generation: A significant portion of internship involved creating meshes for various 3D models. Students were learned to optimize mesh quality, refine element sizes, and ensure compatibility with different simulation solvers.

Automated Meshing: ANSA's automation capabilities were explored, enabling to automate the meshing process for complex geometries, reducing manual effort and increasing efficiency.

Quality Control: Ensuring mesh quality was a key aspect of internship. Students were learned techniques to identify and rectify issues like element distortion, skewness, and non-conformity.

Solver Compatibility: Students were gained insights into the importance of generating meshes compatible with different simulation solvers, including ANSYS, Abaqus, and OpenFOAM.

Project Work: Throughout internship, students were worked on practical projects related to engineering simulations and analyses. These projects allowed me to apply my newly acquired skills to real-world scenarios.

Internship program experience with ANSA Meshing Software at BETA CAE System India Pvt Ltd, Bangalore was highly educational and enriching. It is not only acquired technical skills related to meshing and FEA/CFD simulations but also gained a deeper understanding of their applications in various industries. This experience has strengthened student passion for engineering and provided them with valuable insights that will be beneficial in future career of students.

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Fig. Training Session

ANSA Training's internship program for final year Mechanical Engineering students in partnership with BETA CAE system India Pvt Ltd. Bangalore, has proven to be a springboard for aspiring students looking to kick-start their careers in the automotive industry. Interns engage in real-world projects, gaining exposure to industry-standard practices, advanced technologies, and cutting-edge tools. This immersive experience equips them with the skills required to excel in their chosen fields, ensuring they are prepared for the demands of the automotive industry. With a focus on providing hands-on experience and industry exposure, the internship program has successfully placed numerous talented individuals at ALTEN (ALTEN is a French multinational engineering and technology consulting company).

Dr. Peter Fernandes
Principal
Alva's Institute of Engineering and Technology
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Kumar Swamy <mckswamy@aiet.org.in>

Session on Mid Extraction and Meshing
3 messages

Support <support@beta-cae.in>   Fri, Oct 13, 2023 at 9:31 AM
To: mckswamy@aiet.org.in
Cc: Lokesh SB <lokesh.sb@beta-cae.in>

Hello Kumar Sir,

Good Morning!

As discussed, we can have a basic session on Sheet metal mid-extraction and Meshing.

Please find below link to join meeting scheduled for 2:00 PM to 4:00 PM

https://beta-india.webex.com/beta-india/j.php?MTID=m2583d33413add1814116e29aaa40d110

Thanks and Best Regards,

Premakumar J K
Application Engineer

+91 7022210623 | Sign-up to JIRA Service Desk | www.beta-cae.com

BETA CAE Systems India Pvt. Ltd., No.9/1, 1st Floor, Tejas Arcade, Opp St. Theresa Hospital, 1st Main Road, Dr
Rajkumar Road, Rajajinagar, Bengaluru 560010, India

Support <support@beta-cae.in>   Tue, Oct 17, 2023 at 11:24 AM
To: mckswamy@aiet.org.in
Cc: Lokesh SB <lokesh.sb@beta-cae.in>

Hello Kumar Sir,

Please find below link to download Demo video on Sheet metal mid-extraction and Meshing.

Password - **ANSAMETA**

https://files.beta-cae.com/webaccess/os4xapi/index.php/job/shared?f9052989417c8f39cd441c8a17db95c28d1b31bb

Thanks and Best Regards,

Premakumar J K
Application Engineer

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