

KAMARAJ

COLLEGE OF ENGINEERING & TECHNOLOGY



(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)

S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Mech'Časopis

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August, 2022

Mech'Časopis

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About the Department of Mechanical Engineering

The Department of Mechanical Engineering was started in the year 2005 offering the Bachelor's Degree under Anna University. The Department has 19 faculty members, who are highly qualified in different areas of specialization and dedicated their profession for the students. Amongst that, 7 faculty members hold the Doctorate Degree and 5 faculty members were recognized as supervisors for guiding Ph.D.

The Department is nourished with the modern equipment and computing facilities with the latest version of software viz., ANSYS, SOLIDWORKS, Femap Nastran, NX CAD CAM CAE, MASTERCAM and AutoDesk Inventor. Value added courses are provided for the students. Our department is an Anna University recognized Research Centre.

About Mech'Časopis

The name Mech'Časopis is taken from the Croatian language; Časopis (Pronounced as Chasopis) means Newsletter. This newsletter brings the outline of the students and faculty achievements with the activities of the department.

Mechanical Engineering

Vision

To make Department of Mechanical Engineering the unique of its kind in the field of Research and Development activities in the prominent field of Mechanical Engineering in this part of the world

Mission

To impart highly Innovative and Technical Knowledge in the field of Mechanical Engineering to the urban and unreachable rural student folks, through "Total Quality Education".

Program Educational Objectives

PEO1 - Graduates of the Programme will excel in Technical Knowledge and Apply Innovative Skills in the field of Mechanical Engineering.

PEO2 - Graduates will contribute to Technological Development and Research Activities through "Total Quality Education".

PEO3 - Graduate of the Programme will accomplish Leadership Qualities and Social Responsibilities through "Life Long Learning".

Program Specific Outcomes

PSO1 - Graduates will be able to create and analyse the Research and Development activities related to design and manufacturing.

PSO2 - Graduates will be able to design, develop need based products in Mechanical Engineering and allied Industries.

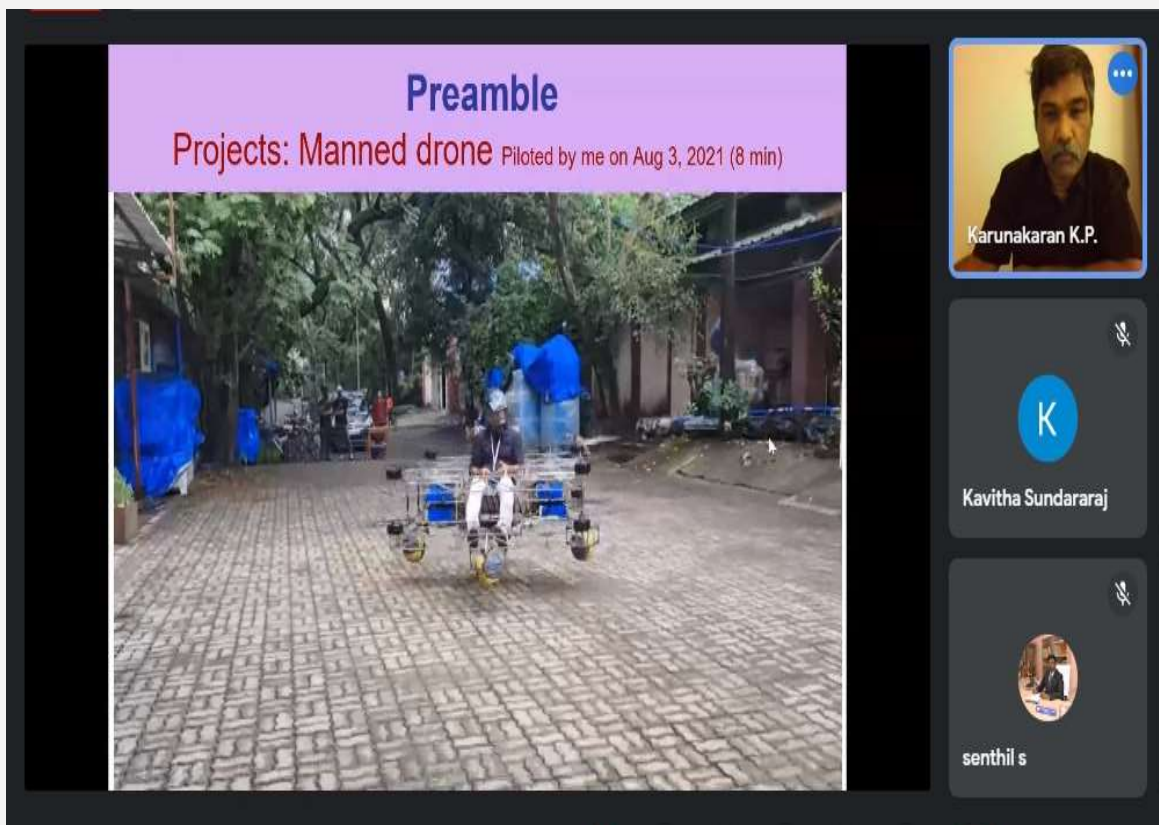
Events Organized

S. No.	Date of Event	Name of the Event
1	28.09.21	Guest Lecture on Mechatronics and its applications
2	29.09.21	Guest Lecture on Non-Destructive testing and its application
3	29.09.21	Basics of CAD and its application in Mechanical Engineering fields"
4	01.10.21	Guest lecture on HVAC Systems, Applications and Opportunities
5	01.10.21	Opportunities of Higher Studies in Abroad for Mechanical Engineering Students
6	28.11.21	Guest Lecture on Entrepreneurship Development
7	07.12.21 - 11.12.21	FDP on 'Organ Printing using 3D Printing Technologies'
8	20.12.21	Seminar on "ICT Design Now Workshop"
9	21.01.22	Guest Lecture on "Advanced Product Quality Planning"
10	24.02.22	Guest Lecture on "Impact of Design in Manufacturing Industry"

Events Organized



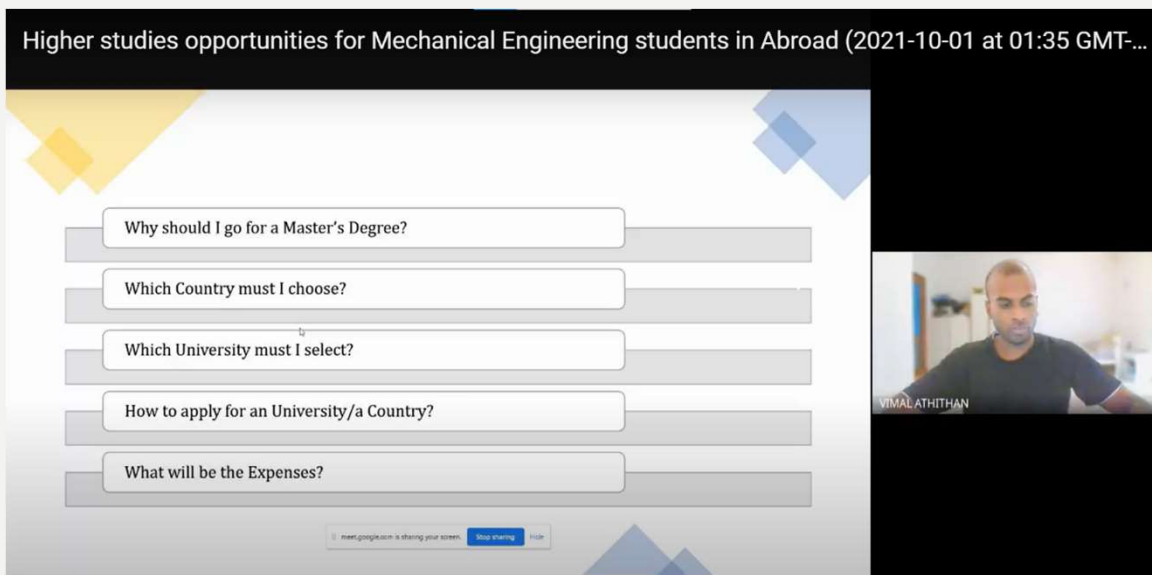
Basics of CAD and its application in Mechanical Engineering fields"



Events Organized

S.No.	Date of Event	Name of the Event
11	11.04.22	Guest Lecture on “Expectation of Industries”
12	21.04.22	Guest lecture on Role of CAE in Mechanical and Aerospace Sector
13	27.04.22 – 28.04.22	Two days FDP on Future of Making Things with Autodesk Fusion
14	29.04.22	Guest Lecture on Career Opportunities for Mechanical Engineers in IT industry
15	05.05.22	Seminar on 3D printing
16	17.05.22	Guest Lecture on Challenges and Opportunities in EV
17	26.05.22	Guest lecture on Design of Pneumatic Circuits

Higher studies opportunities for Mechanical Engineering students in Abroad (2021-10-01 at 01:35 GMT-...



The screenshot shows a Zoom meeting interface. On the left, a list of questions is displayed in a white box with a grey border. The questions are: "Why should I go for a Master's Degree?", "Which Country must I choose?", "Which University must I select?", "How to apply for an University/a Country?", and "What will be the Expenses?". On the right, there is a video feed of a man with a beard, wearing a dark shirt, speaking. The name "VIMALATHITHAN" is visible below the video feed. At the bottom of the screen, there is a small status bar that says "meet.google.com is sharing your screen" and "Stop meeting" and "Hide" buttons.

Opportunities of Higher Studies in Abroad for Mechanical Engineering Students

Events Organized



Guest Lecture on “Impact of Design in Manufacturing Industry”



Autodesk Sponsored Two days FDP on Future of Making Things with Autodesk Fusion

Events Organized



KAMARAJ COLLEGE OF ENGINEERING AND
TECHNOLOGY
DEPARTMENT OF MECHANICAL
17TH MAY 2022



CHALLENGES &
OPPORTUNITIES IN
ELECTRICAL VEHICLES

Events Organized

**CADD
CENTRE**
VIRUDHUNAGAR
PH: 94893 70118

@KAMARAJ COLLEGE OF ENGG. & TECH.
b2
STUDENTS



3D PRINTING

SEMINAR ON

TECHNOLOGY



Student's Achievements

Contest/ Events

- S.Ajay Krishna, S.Pravin Kumar, J.Jerry Robinson and J.Balavignesh got First Prize in Design Competition - NexGen3D Hackathon Organized by PALS on 07/09/2021.
- Our students participated in INTER ENGG COLLEGE cricket tournament at KLN college of Engineering organized by ISHRAE Madurai chapter on 05/03/2022.



- Mickael Raj. P, Naga Raj. S and Lokesh. S got First Prize in KCET Build-A-Thon 2022 Contest Organized by Kamaraj College of Engineering and Technology (Autonomous) on 27/05/2022.
- R.Praveen Raj, K.B.Vignesh and C.Aravindhan got Second Prize in KCET Build-A-Thon 2022 Contest Organized by Kamaraj College of Engineering and Technology (Autonomous) on 27/05/2022.
- D.Sathish Kumar II year Mechanical got Third Prize in CAD 'O' Mania event Organized by Thiagarajar College of Engineering, Madurai on 28/05/2022.

Student's Achievements

Grants Received by students

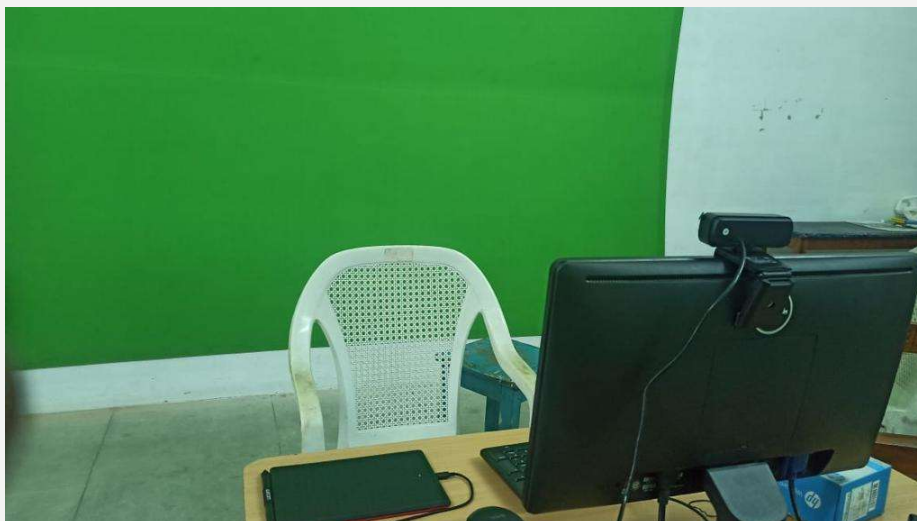
- Received Rs.6,000/- from **Foundation for Advancement of Education and Research** under **FAER - McAfee Scholar Program 2022** for the project titled **“Design and Fabrication of detachable speed breaker with barricade system”**.
Name of the Guide : Dr.B.Prabhu, AP/Mechanical Engineering.
Name of the Students : M.Rajadurai, K.Vishnu Priyan & Arun Karthik
- Received Rs.7,500/- from **Foundation for Tamilnadu State Council for Science and Technology, Chennai** under **Students Projects Scheme (2021 - 2022)** for the project titled **“Design and Fabrication of Solar Operated Litter Raking Machine for Poultry Farm”**.
Name of the Guide : Mr.T.Suresh, AP/Mechanical Engineering.
Name of the Students : J.Bala Vingesh, T.Navaneetha Krishnan & S.Satheesh Kumar

Notable Contributions by Faculty

- Purchased 3D Printer and 3D Scanner Under AICTE MODROBS Scheme for the Modernisation of CAD Lab (Amount Sanctioned Rs.8.8 Lakhs)



- Established Multimedia Room to enhance Teaching Learning Process.



Notable Contributions by Faculty

- Dr. S. Senthil Prof & HOD/Mechanical Engineering received Kamarajar award from rotary club of Virudhunagar for Research Excellence.



- Dr.S.S.Saravanakumar and Mr.P.Senthamarai Kannan listed in top 2% scientist from India (all fields).



Notable Contributions by Faculty

- Dr.S.Senthil and Dr.S.Thanga Kasi Rajan are awarded as Primary Evaluator for expectational contribution in Toycathon, 2021.



- Dr.B.Prabhu and Dr.S.Thanga Kasi Rajan are recognized as Supervisor for guiding Ph.D Scholars under faculty of Mechanical Engineering.
- Dr.M.Prithiviraj and Mr.D.Palani Kumar has secured Best Research Paper Award for a research paper titled Energy Absorption Characteristics of Thin Walled Tubes with Rubberized Coir Filler in Axial Loading presented in the 3rd International Conference on Empirical and Theoretical Research (ICETR-2022) organized online on 28/01/2022 to 29/01/2022.
- Mr.R.Sakthivel Murugan, AP/ Mechanical Engineering has contributed as Resource Person in AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Organ Printing using 3D Printing Technologies to make Self-Reliant India" from 07/12/2021 to 11/12/2021 at Kamaraj College of Engineering and Technology.

Industry Connections

MoU Signed

- Signed MoU with alfa TKG Integrated Solutions India Private Limited, Chennai for placement, internship and industrial visit.



Industry Connections

Industrial Visit by students

- IV Year Mech students visited CIPET, Madurai on 12/10/2021.



- III Year Mech students visited Hydax Hydraulics Private Limited, Bangalore on 08/04/2022.



Industry Connections

Industrial Visit by students

- II Year Mech students visited HMT Machine Tools Ltd, Bangalore on 09/04/2022.



Industry Connections

Industrial Visit by faculty

- Dr.S.S.Saravankumar and Dr.S.Thanga Kasi Rajan visited alfa TKG Integrated Solutions India Private Limited, Chennai to sign MoU for placement, internship and industrial visit.
- Mr.N.R.Madhan visited Brakes India Private Limited, Polambakkam Plant to study the Implementation of TPM and Measure of Lean Manufacturing on 15.02.2022.
- Dr.S.Thanaga Kasi Rajan and Dr.B.Balavairavan visited Indira Gandhi Centre for Atomic Research (IGCAR) on 20.06.2022
- Dr.M.Prithviraj visited Tvs Srichakra, Madurai for Insutry Institute Collaboration.
- Mr.A.Sankara Narayana Murthy visited CODISSIA Trade Fair on 03.06.2022 to 04.06.2022 to identify Intership and Placement Opportunities.
- Dr.B.Prabhu visited Sri Hari Tex Industries, Madurai on 16.07.2022 to seek MoU Opportunities.



Presignal Analyser for Indian Railways

Team Members

S. No.	Roll No.	Name of the student
1	18UMEC007	S.Pravin Kumar
2	18UMEC022	S.Balamurugan
3	18UMEC027	DJ.Robert Manickam

Project Supervisor – Dr.S.Thanga Kasi Rajan

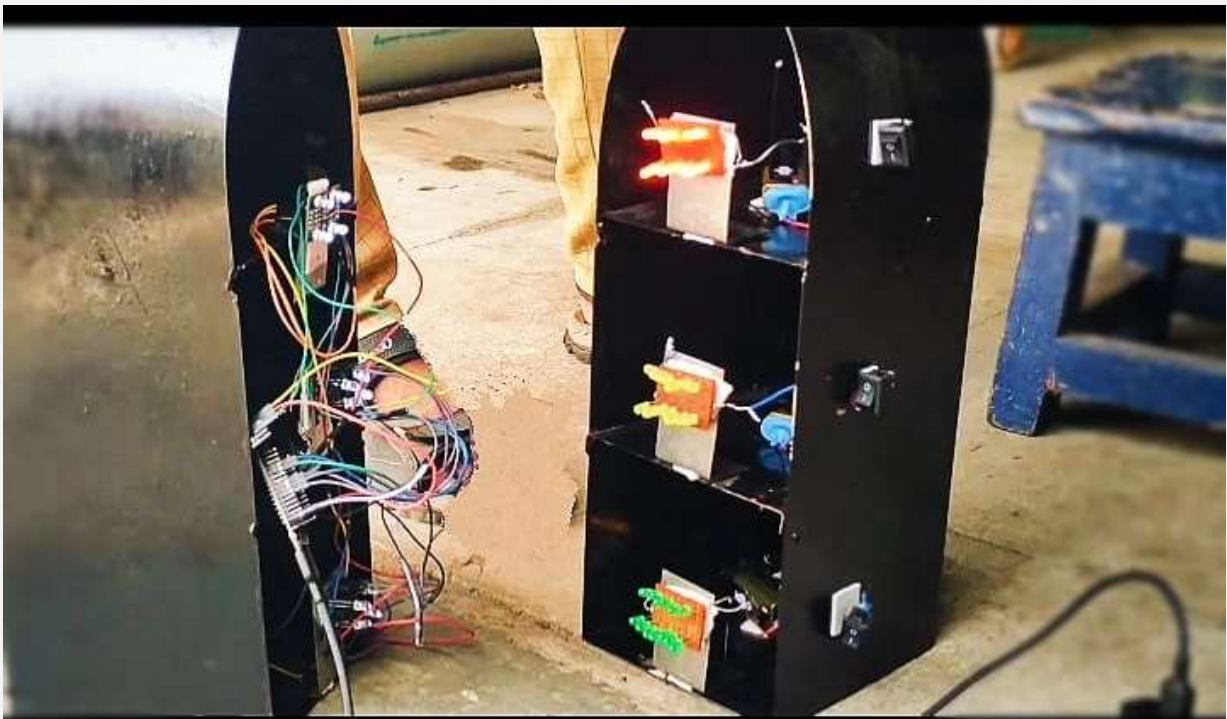
ABSTRACT

In India there are nearly 12,617 number of trains running per day. Mostly in northern side of India many peoples are using railways as their regular transportation. Generally there are 4 signals before a train reaches a station namely, MACL(Multiple Aspect Colour Light), 3CL(3-Colour Light), 2CL(2-Colour Light).

During hard climatic condition like fog and heavy summer , these signals which indicate the entry of train into the station are not been able to see through naked eye of the Assistant Loco Pilot (ALP). hence there is a situation for the Loco Pilot (LC) to slow down the train nearly 40-50 km/hr.

This delay causes a major problem for the Indian railway system in day to day arrival as per the schedule. Also by this variation of speed (decreasing to 40-50 km/hr and then raising to an average speed of 90-110 km/hr) due to the improper signal communication causes more burning of fuel.

To deal with this difficulty we are introducing a new device called Pre-Signal Analyser. This device receives the signal information from the signalling and transfers to the engine of the train before 300m the train reaches the signal spot. By achieving this train can reach the station without any delay during any climatic condition. From this project we hope to reduce the difficulties faced by the department of Indian Railway.



Design and Fabrication of Semi-Automated floor Cleaning Machine

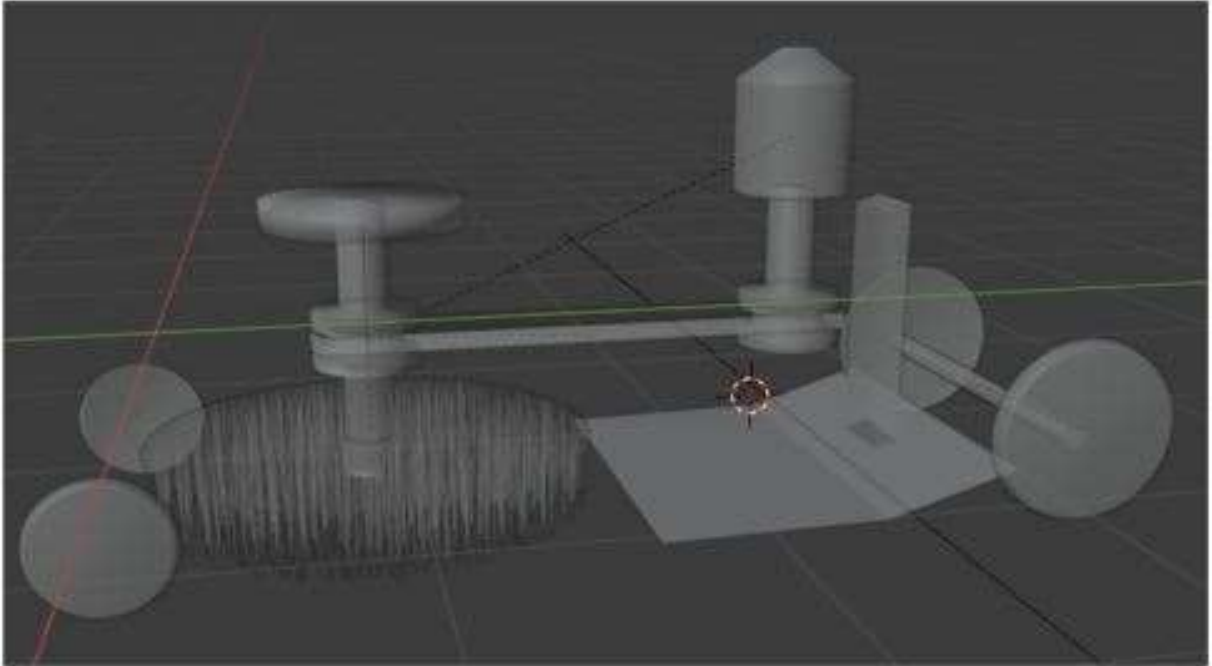
Team Members

S. No.	Roll No.	Name of the student
1	I8UMEC062	T.Gowsic
2	I8UMEC049	K.Bala Sankar
3	I8UMEC074	S.Vignesh

Project Supervisor – Mr. S. Muthu Natarajan

ABSTRACT

The project proposal is focus on replacing the manual method of cleaning system with the Semi-Automated Floor Cleaning Machine. The purpose of this project is to clean the floors in colleges, hospitals, auditoriums, malls, etc. In modern days interior decorations are becoming an important in our life cleaning of floor is very important for our health and this floor machine reduces the effort required for cleaning. The main objective of the design is to reduce the human work role in cleaning also satisfying the other criteria like simplicity in design, low cost ,easily manageable and covering all the needs of various safety standards.



Scholar of Eminence



Dr. B. Balavairavan
Assistant Professor,
Mechanical Engineering,
Kamaraj College of Engineering
and Technology



Technical Article

Scope of Mechanical engineer in IT industry

I think the scope is large and exiting. You have the obvious Software Engineer role, the famous and various Developer roles, the System Operation and System Administrator roles, Machine Learning etc. There are also new types of computers being researched that need probably more engineers than developers. Then there's all the robotics world, ranging from assembly chains to human-like robots.

Let me give you a bit more details on why I think a mechanical engineer with a good IT knowledge would be a perfect fit for the roles mentioned above.

I think Mechanical Engineering is one of the best courses you can do (by “best” I mean the one that will be more useful for you in the future). In my opinion it teaches you concepts that can be applied to virtually any topic. However, since the questions is about Computer Science, I will focus only on what is relevant to it. The most important concepts I am referring to are:

Analytical thinking. As an example, one of the first things I was taught during the Engineering course was to start looking at / thinking about the world in a different way. I have learned to take apart objects in my mind and think how they were built. This was extremely helpful during my training period in IT, when they told us to start thinking about every object around us in terms of classes and thinking about how we would represent that with code.

Design skills This includes planning, decision making, communication with clients and/or team members. I don't think there's a need for giving examples of how this applies to Computer Science.

Maths/Physics. Whilst it is probably obvious why math is very useful in the IT world, the reason why physics is might not be as obvious. Personally, I think that physics give you a general understanding of how the mechanical world works. And since you are working in this mechanical world, this helps you understand why things happen, how they work, and why they might physically break.

Based on the above, a mechanical engineer should be able to simply do any type of job he wants, given enough preparation for such job. In fact, actually only few of the students in my engineering course are now actually working as mechanical engineers. Lots of them became managers, business analysts, programmers, Quality assurance engineer (like myself) etc.

So, to conclude, I think a mechanical engineer that works in the IT industry has a large scope. And it will only get better as people keep on doing very specialized courses that only teach you how to do a couple of things in much details, rather than giving you a wide understanding of the topic, like mechanical engineering does.



Er. Arunramsundar R
Associate QS,
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Chennai.

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