



# Anirudh Muraleedharan

DOB: 29 November 1987

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Kerala, India  
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## Education

Diploma in Mechanical Engineering  
Sree Narayana Guru Polytechnic  
Coimbatore [2010] Course completion

Class X  
NSSKPTVHSS Ottapalam [2004]

## Skill

**Simulation:** Ansys

**CAD:** Solidworks, Catia, AutoCAD, Pro-e,

**Productivity:** Primavera, Microsoft Project planning, Trello,

**3D print Slicer:**  
Cura, Prusa, MakerBot print, GrabCAD print,

**3D printer:**  
Fortus 250MC, Ultimaker 2+, Ultimaker 3 Ext, Ultimaker S5, Prusa IMK3S.

**Machines:** SIL Laser Cutter, SIL large bed Router,

**Languages:** English, Hindi, Malayalam, Tamil

## About me

I am a mechanical design engineer with over 13 years of experience in the design field working at various institutions such as Amrita Vishwa Vidyapeetham - Centre for internet studies and Artificial Intelligence. CISAI, Ammachi labs, Global Exports and Cochin CADD Centre. My notable achievements have been in design, development and manufacturing of haptic simulators for skill training that are being used by leading construction companies like Larsen & Toubro to train their personnel in various vocational skills. I am also actively involved in various volunteer activities with Ayudh, the youth wing of MA Math.

## Work Experience

2020 May      **Mechanical Design Engineer at CISAI**      **Present**  
Amrita Vishwa Vidyapeetham | Kollam

### Job Role: Design Engineer

- Created 3D print plastic enclosure for IoT devices. Wearable, remote health monitoring system, IP65 enclosure for vehicle tracking system.
- Coordinated development for plastic enclosure injection mouldings partners
- Assisted in Research and development for wearable and remote health monitoring devices Electrocardiography (ECG), Blood Oxygen (SPO2), Photoplethysmography (PPG), Blood pressure (BP)

2013 Sep      **Mechanical Design Engineer at Ammachi labs**      **6.7yr**  
Amrita Vishwa Vidyapeetham | Kollam

### Job Role: Makerspace Coordinator

- Handled order requests for digital fabrication using 3D printer's laser cutter and CNC routing from student, research engineers and business incubator start-up clients
- Expert level Know-how in 3D printing PLA, ABS, Carbon fibre and Nylon components. Designed over 100 components to be easily 3D printed.
- Mentored undergraduate and master's students for their 3D modelling and mechanical design and prototyping projects.
- Conducted workshops in the use of hand-held powered tools, machines and safety practices for makerspace members.
- Supervised Inventory Management for tools, Material and consumables.
- Managed Purchase, procurement and membership accounts.
- Created the road map for each year and planned internal events.
- Created Budgets and wrote proposals for the makerspace.
- Attended maker fairs and other related conferences to promote makerspace.
- Attended to guests and visitors and coordinated demos.
- Coordinated tasks assigned to the team including the instructors, membership associate, and community engagement specialist.
- Structured memberships, member privileges, member rating, fees and dues.
- Developed the training materials for operating tools in the space.
- Offered safety training and basic makerspace safety certifications.
- Provided internal skill development to the maker space team.

### Job Role: Maker Skill Educator

- Assisted in setup Atal Tinkering Labs at schools by preparing lab layouts, equipment procurement and teacher training for use of 3D printers etc.
- Conducted 3D modelling, design thinking and prototyping workshops in several schools in Kerala.
- Was Maker Workshop instructor for Andhra Pradesh States Skill Development Corporations (APSSDC) and offered 3D modelling and prototyping skill training to over 250 students in 4 rural schools.
- Was trainer for the Train the Trainer program by APSSDC, where 24 trainers were trained to take our curriculum to over 400 rural and tribal schools in Andhra Pradesh.
- Participated in creation of MOOCS on maker skills and digitize them.
- Promoted the maker culture among students and researchers through maker activities.
- Handled community activities and meetups.
- Contributed to workshops that have led to research publications.

Reference

**Akshay Nagarajan,**  
Researcher- Cognitive Science and Robotics  
University of California San Diego, California, USA  
email: anagaraj@ucsd.edu  
Phone +1 5103618748

**Ranjith R**  
Senior Researcher CISA  
Amrita Vishwa Vidyapeetham  
Amritapuri, Kerala, India  
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Trainings attended

Professional in Mechanical CAD  
CADD Centre, Palakkad

Solidworks Professional: Industrial Design training  
Konceptia Konnect, Cochin

Basic 3D animation using blender  
IIT Bombay

RHCE, RHCSA  
Mazenet Solution Coimbatore

Strengths

Innovative  
Fast learner  
Mentorship Skills  
Hard Working

Extracurricular

Ayudh Youth camps  
Organising Committee member

Ayudh Vishnuthaineetam  
Designed bird feeders

T4E 2015 Intl. Conference  
Catering Coordinator

RAHA 2016 Intl. Conference  
Organising Committee member

2019 int. Conference UNESCO colloquium  
Catering Coordinator

Hobbies

Football  
Trekking  
3D modelling  
Biking

Job Role: Design Engineer for Haptic Simulator Development

- Participated in research and development of cutting-edge bar bending simulator for Larsen & Toubro construction training centre through constant innovation utilizing the SolidWorks 3D design software.
- Responsible For establishing and maintaining solidworks library.
- Created the mechanical aspects of prototype for Lathe and Mill haptic simulator.
- Drafted and detailed product drawings for fabrication, assembly, cable routing and system integration.
- Assisted in design modification in liner haptic device (APTHA).
- Conducted literature study for rice transplanter device.

Job Role: Design Engineer for Drone Development

- Was responsible for design and modification on 3D models of aero structures for fixed wing and hybrid vertical take-off and landing UAVs.
- Assisted students of the aero club to prototype their fixed wing planes on laser cutting.
- Conducted literature survey of various UAV competitions for identifying flight test scenarios.

Field Work

- Participated in field projects for the UNESCO Chair in Women Empowerment and Gender Equality in rural villages of Jharkhand, West Bengal, Andhra Pradesh where we organized skill development training activities in soap making and toilet building.
- Assisted in construction and setting up of vocational training centres for the Pradhan Mantri Kaushal Vikas Yojana in Jharkhand and Chhattisgarh.

2012 Nov	CAD Engineer at Global Exports   Coimbatore	1.5yr
	<ul style="list-style-type: none"><li>• 3D modelling different types of engine reconditioning machines such as cylinder boring, crank shaft grinding, connecting rod boring, engine head grinding and line boring.</li><li>• Assisted in purchase and procurement of raw materials</li><li>• Coordinating process planning and manufacturing.</li><li>• Handling IT assistance and maintenance tasks.</li></ul>	

2010 Nov	CAD Engineer – Cochin CADD Centre   Cochin	1yr
	<ul style="list-style-type: none"><li>• Provided training and mentorship to over 300 students at the centre.</li><li>• Packages on which training was provided include Solidworks, Catia, Pro-e and AutoCAD.</li></ul>	

Publications

2018	Aim for the sky: Fostering a constructionist learning environment for teaching maker skills to children in India Proceedings of the Conference on creativity and making in education.	ACM
2018	All Aboard for Joy of Making! Teaching User Cantered Design and Tinkering to Middle School Children in India 10 <sup>th</sup> International Conference on technology for Education	IEEE
2018	Design, Observe and tinker: A constructionist approach to introduce maker skills in rural schools. 18th International Conference on Advanced Learning Technologies	IEEE
2020	Constructionism in Disaster Preparedness Education: Cultivating agency in children to tackle emergencies	Fab-learn Asia 2020