



# AKASH V

**MECHANICAL ENGINEER**  
VELLORE INSTITUTE OF TECHNOLOGY  
CHENNAI , INDIA

## PROFILE

A passionate and organized Mechanical Engineer seeking every possible opportunity to expand his knowledge.I have a keen understanding of concepts which are stem from my smart work and dedication.

## CONTACT INFORMATION



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Akash Venkateshwaran



<http://akashvenkateshwaran.me/>

## ACADEMIC BACKGROUND

YEAR	DEGREE	INSTITUTION/BOARD	CGPA/PERCENTAGE
2018-Present	B.Tech Mechanical Engineering	VIT Chennai India	9.58
2018	Class XII CBSE	BVM Global Coimbatore India	91%
2016	Class X CBSE	BVM Global Coimbatore India	9.4

## INTERNSHIPS AND INPLANT TRAINING

India Connect@NTU August-December  
Nanyang Technological University  
Singapore 2021

### FEM INVESTIGATION OF SPLIT HOPKINSON PRESSURE BAR

Dynamic analysis of various specimens in Split Hopkinson Pressure Bar and modeling in ANSYS/LS-DYNA to investigate the effects of different parameters.

MITACS June-August  
York University Toronto 2021

### NUMERICAL INVESTIGATION OF TURBULENT STRUCTURES & AIR ENTRAINMENT IN POSITIVE SURGE WAVES

Large Eddy Simulation of surge waves to understand the turbulence and air entrainment which has adverse effects on both environmental factors as well as human safety factors.

National Cheng Kung University September-March  
2020-21

### MACHINE LEARNING FOR THE ESTIMATION OF CANCER CELL INVASION

Apply machine learning and deep learning algorithms for classification, segmentation and tracking of the cell images from 3D cancer spheroids at matrix interface.

Yuan-Ze University April -June  
2020

### MACHINE LEARNING FOR FLUID MECHANICS

Velocity prediction model around a cylindrical surface by feeding pressure contours data into a Deep Neural Network.

Guindy Machine Tools LTD May  
Chennai 2019

### MACHINING PROCESS IN MANUFACTURING

Inplant training on different manufacturing processes that includes both manual and CNC machines.General Idea on stages involved in the manufacturing of Jaw chucks.

( More Info in **Portfolio** )

## RESEARCH PUBLICATIONS

- Zhouan Li, Akash Vekateshwaran, Shooka Karimpour. **Numerical Investigation of Turbulent Structures and Air Entrainment in Positive Surge Waves.** *Journal of Applied Water Engineering and Research* [Ongoing]
- Akash Vekateshwaran, Mahendhar Kumar, Sai Santosh, M.B. Shyam Kumar, R.Sivakumar, and Aniket Chetan Joshi. **Numerical Study of the effect of geometry on the behaviour of Internally heated Melt pool with Eutectic Salt.** *Annals of Nuclear Energy* [Under Review]
- Akash Vekateshwaran, Mahendhar Kumar, Sai Santosh, M.B. Shyam Kumar, and R.Sivakumar. **Numerical Evaluation of geometric variations in Internally heated melt pool.** In proceedings of *Sustainable Energy Solution for a Better Tomorrow* (SESBT 21). [Under Review  
Material Today - Elsevier]
- Mahendhar Kumar, Akash Vekateshwaran, Sai Santosh, Manavella Sreekanth, Davidson Jabaseelan, and R.Sivakumar. **Stress analysis of a Regenerative Flow Compressor and Pump based in Fluid-Structural Coupling.** In proceedings of *Sustainable Energy Solution for a Better Tomorrow* (SESBT 21). [Under Review  
Material Today - Elsevier]
- Naveen Srinivasan, Akash Venkateshwaran, Akash Menon S, Chamala Vaishnavi, Sraajaysikhar D and Janardhan Reddy K. **Development of a Flame Shield for use in Domestic Gas Stoves.** In proceedings of *Sustainable Energy Solution for a Better Tomorrow* (SESBT 21). [Under Review  
IOP - EES]
- Pranava Sreedhar, Akash Venkateshwaran, Bhisham Kumar. **Review on Emission Control using Split Injection System in LTC Engines.** In proceedings of *Progressive Research in Industrial and Mechanical Engineering* (PRIME 21). [Accepted for publishing by Springer]
- Mahendhar Kumar, Akash Vekateshwaran, Chamala Vaishnavi, and Bhaskara Rao. **Numerical Analysis of Buckling in Rectangular Plates with Different Cut-outs.** In proceedings of *International Conference on Innovation in Mechanical Engineering* (ICIME 20). [Accepted for publishing by Springer]

## HONORS AND AWARDS

- Meritorious Award 2019 : **Fourth Rank** in Mechanical Department at VIT Chennai during the year
- Meritorious Award 2020 : **Eighth Rank** in Mechanical Department at VIT Chennai during the year
- **MITACS Globalink** Graduate Fellowship
- **IELTS** (International English Language Testing System) : 7.5

## ACHIEVEMENTS AND CERTIFICATIONS

- Acquired **CSWA** certification
- Runner up of **Chennai International Youth Fest** 2019
- Winner of **Electrofocus** 2020 at **MIT, Chennai**
- Top 5 in Law Follower event at **ATMOS 2019, BITS Pilani**
- Winners of Line Follower at **EMFISIS 2020, KCG College Of Technology**
- Won "Dribble through the world" campaign - Pair of Etihad Airways Guest ticket and Etihad Stadium Hospitality ticket in Manchester, UK - 2019
- 10+ Coursera certificates and EDX courses

## PROJECTS

Mini Robots	Law and Line Following Robot, Obstacle Racer, Robo-Soccer, Maze Runner, Sumo Robot, RC Nitro Cars, BattleBots - Robotics Team ATOM
Archimedes Spiral Wind-Turbine	Numerical simulation and development process of wind turbine prototype using additive manufacturing techniques - Project for Course titled " Rapid Manufacturing Technique "
XRAY Detection	Neural Network to identify and differentiate 14 types of chest disease using the dataset collected from NIH
Composite Planetary Gear System	Designed and development of Epicyclic system for electric vehicle applications - Project for Course titled " Design of Transmission Systems "
Autonomous Medical Drone	Generative Design and Simulation of Drone Delivery of Medicine using ROS - Project for Course titled " Technical Answers to Real World Problems "

## WORKSHOPS

- Online National Workshop on **OpenFOAM** 2021
- **ISHRAE** Workshop on Energy Simulation and CFD Analysis in Building 2020
- Workshop in **AMZ Automotive** 2019
- Workshop on **Hybrid Car Design** 2019

## SKILLS/SOFTWARES:

Design Tools	Ansys	OpenFOAM	SolidWorks	Fusion360	
Programming Tools	C	Python	C++	Java	Tensorflow
	OpenCV	MATLAB	YOLO		
Other Tools	ParaView	Weka	Fiji	ImageJ	
Basic Softwares	Microsoft Word	PowerPoint	Excel		
	LaTeX	Overleaf			

## POSITIONS OF RESPONSIBILITY:

Robotics Club	Programming Lead of ATOM Robotics (Official Team at VIT, Chennai) - Attended Robotics events & competitions - Worked on mini-projects
National Service Scheme	Member of NSS which is government-led community service activities & programs - Participated in Beach Cleaning Campaign of Marina Beach - Blood Donation Camp - School Development Scheme - Tree Plantation
Vibrance'19	Organized and administrated event - Fundraising and Booking of Food Stalls
ISHRAE	Active Member in Indian Society of Heating Refrigeration and Air-Conditioning Engineers

## AREA OF INTEREST

- CFD / FEA
- Aerodynamics
- Thermofluids
- Fluid Dynamics
- Design Optimization
- Machine Learning

## REFERENCES

### Dr. Shooka Karimpour

Assistant Professor, Department of Civil Engineering, Lassonde School of Engineering, York University

### Dr. Shyam Kumar M B

Associate Professor (Sr.), School of Mechanical Engineering Vellore Institute of Technology - VIT Chennai