



ASHWIN KUMAR K

Course: **M.Sc. (Hons.)**, Physics and **B.E. (Hons.)**, Electronics and Instrumentation, 2020

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CGPA : 7



ACADEMIC DETAILS				
COURSE	INSTITUTE/COLLEGE	BOARD/UNIVERSITY	SCORE	YEAR
CLASS XII	VVS GJ PU COLLEGE	Karnataka Pre-University Education Board	566 MARKS	2017
CLASS X	Demonstration Multipurpose School Mysore	CBSE	9.8 CGPA	2015

Subjects / Electives	
Technical Proficiency	

SUMMER INTERNSHIP / WORK EXPERIENCE	
Summer Intern, Kaynes Technology India Pvt Limited	May 2020 - Jun 2020
Design and Simulation of Battery Management System Algorithms for Electric Vehicle Applications. The project involved mapping out BMS requirements, Compute approximate parameter values for a circuit model using data from a simple lab test, Simulate battery packs to understand and predict behaviours on load, Simulate an electric vehicle to yield estimates of the range.	
Summer Intern, DARE , DRDO	Jul 2019 - Aug 2019
Study on Fundamentals of electronic warfare system and Simulation of reticle based IR seeker missile and it's countermeasure in MATLAB	
Summer Intern, National Institute of Science Education and Research	May 2019 - Jul 2019
Worked in the Superconductivity lab at NISER under Dr. Kartik Senapati. Internship involved the Design and fabrication of a cryogenic probe for transport measurements and interfacing of measurement instruments (LS336, B2912A) using LabVIEW	
Product Design, FunDay Sports	Jul 2018 - Dec 2018
Designed a pressure-sensitive mat that can sense touch enabling the determination of different poses such as Running, Jumping, Rightward-leftward movement, one-leg hop etc.	

PROJECTS	
Design and Simulation of Battery Management System Algorithms for Electric Vehicle Applications. - Algorithm Design and Simulation	May 2020 - Jun 2020
Thermal evaporation deposition system - Product Design	Aug 2019 - Present
Design of a low cost thermal evaporation deposition system Design and optimisation of a thermal evaporation coater unit.	
•Simulation of IR seeker missiles and its counter measure in Defence Avionics Research Establishment - Simulation	Jul 2019 - Aug 2019
Cryostat Probe design and optimisation for transport measurement. - Instrument Design	May 2019 - Jul 2019
Design of a cryogenic probe for transport measurements and using it to observe Superconducting transition of Niobium Nitrate	
Project Kratos - Instrument Interfacing	Aug 2018 - Aug 2019
Building an All-terrain Autonomous Mars Rover for Indian and University Rover Challenge Member of electronics subsystem and worked in the interfacing of various onboard instruments.	
Hyperloop India - Member of Electronics subsystem	Aug 2018 - Aug 2019
Worked in the drive system, power system, battery management system for the design of 2018 PDB	

•Team Imitato - Robotics	Aug 2018 - Present
Designing an exosuit to control a humanoid that can be beneficial in reaching in- accessible and non-human conditions. (Working as Electronics, Communication and Haptics Control head)	
Determination of temperature of stars by analysing images obtained from a simple camera. - Data acquisition and analysis	Aug 2018 - Dec 2018
Pressure sensitive mat - Product Design	Aug 2018 - Dec 2018
To make a mat that can sense touch enabling the determination of different poses such as Running, Jumping, Rightward-leftward movement, one leg hop etc.. (Worked in electronics and algorithm design).	
A Novel Stove Stand - Product Design	Nov 2014 - Dec 2014
Designed and built a contraption to harness electricity (about 20W) from the otherwise wasted heat energy produced while burning LPG gas for cooking. It also reduced the cooking time.	

POSITION OF RESPONSIBILITY	
Inventory Head - Electronics & Robotics Club, BITS Goa	Apr 2018 - Apr 2019
Held the position of responsibility of Inventory Head for the Electronics & Robotics Club, BITS Goa	
EXTRA CURRICULAR ACTIVITIES	

AWARDS AND RECOGNITIONS
KVPY 2017 Fellowship Department of Science and Technology (IISc)
ISCA Travel award Infosys Foundation

CERTIFICATIONS		
CERTIFICATION	CERTIFYING AUTHORITY	DESCRIPTION
Introduction to Data Science in Python	Coursera (University of Michigan)	
Nanotechnology: A Maker’s Course	Coursera (Duke University)	
Nanotechnology and Nanosensors, Part1	Coursera (Technion - Israel Institute of Technology)	
Introduction to battery-management systems	Coursera (University of Colorado Boulder)	

COMPETITIONS
Open CBR Hackathon
3rdplace in Open CBR Hackathon organised by University of Leeds.
National Graduate Physics Examination -19

CONFERENCES AND WORKSHOPS
Algorithms in ancient Indian Mathematics and Astronomy
Organized by: NCERT Date:
Presented a paper entitled “Algorithms in ancient Indian Mathematics and Astronomy” at “National Conference on Ancient Indian Knowledge: Science and Technology”, NCERT, New Delhi.
Changes in Beliefs about Physics and learning Physics
Organized by: Teaching-Learning Centre, BITS Goa Date:

TEST SCORES		
TEST NAME	DATE OF EXAM	SCORE
NGPE-19		Rank: 30
KVPY		Rank: 55

PATENTS

PUBLICATIONS

Gravitational waves really exist!Journal name: Dream 2047 (Vigyanprasar) | Publication date: Apr 1, 2016“Gravitational waves really exist!”. Dream 2047 (Vigyanprasar),“Gravitational waves really exist!”. Dream 2047 (Vigyanprasar), 18(7): 28–29, Apr. 2016.

SCHOLARSHIPS	
KVPY	Aug 2018
VOLUNTEER EXPERIENCE	
LANGUAGES KNOWN	
Hindi, English, Kannada	