Sudhakar Kumar

Graduate Student
Department of Systems and Control Engineering
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Education	***Master of Technology*** (pursuing), Systems and Control Engineering IIT Bombay, Maharashtra.	2018-21
	Bachelor of Technology, Electronics & Communication Engineering Shri Mata Vaishno Devi (SMVD) University, Jammu. `8.33/10`, **Branch Rank 1/90**	2012-16
Work Experience (1.5 years)	***Research Assistant*** **IIT Bombay, Maharashtra, India**. **Project**: Development of an Affordable Open-Sky Planetarium	May'17–Present
	Project Associate **IIT Mandi, Himachal Pradesh, India**. **Project**: Development of a Landslide Risk Communication System	Dec'16–Apr'17
	Summer Intern **Academia Sinica, Taipei, Taiwan**. **Project**: Localization of Wireless Charging Vehicles in an IoT Network	July–Aug'16
	Summer Intern **IIT Bombay, Maharashtra, India.** **Project**: Development of a MODBUS Automation System	May–June'15

Relevant Projects

Development of an Affordable Open-Sky Planetarium Ongoing
- Developing hardware architecture for the project.
- Interfacing hardware components with a GUI.
- Improving the methodology to calculate coordinates for high precision.

Project Supervisor: Prof. Kannan M. Moudgalya (**Professor, IIT Bombay**)

Development of a Landslide Risk Communication System Dec'16–Apr'17
- Developed a solar-powered weather station.
- Interfaced sensors with microcontroller and GSM module.
- Designed the IoT framework of the weather station.
- Developed a sleep mechanism for microcontroller to save power.

Project Supervisor: Dr. Varun Dutt (**Asstt. Professor, IIT Mandi**)

Localization of Wireless Charging Vehicles (WCV) July-Aug 2016
- Examined the utility of WCV for powering nodes in a wireless sensor network.
- An optimum path was proposed for WCV to ensure the life of nodes.
- High energy requirements of nodes close to base station were ascertained to address energy hole issue.

Project Supervisor: Dr. Ronald Y. Chang (**Research Fellow, Academia Sinica**)

Online Courses
- *Programming in R for Data Science* by Microsoft Corporation on edX. Certificate earned on June 29, 2016.
- *Introduction to the Internet of Things and Embedded Systems* by The University of California, Irvine on Coursera. Certificate earned on May 12, 2016.

Publications	**Book chapter/ Book**

Publications

Book chapter/ Book

Chaturvedi, P., Thakur, Kamal K., Mali, N., **Kumar, S.** et al. (2018). A Low-Cost IoT Framework for Landslide Prediction and Risk Communication. In Wiley-IEEE Press - Internet of Things A-Z: Technologies and Applications.

Das, M.R., Arora, I., Kelkar, S., Kushalker, R., Patnaik, S., Rokade, R., Joshi, T., **Kumar, S.** et al. (2015). Microcontroller experiments through Arduino & Scilab. Shroff Publishers and Distributors Pvt. Ltd., Mumbai, India.

Conference Proceedings

Shukla, P., Singh, S., Joshi, T., **Kumar, S.**, et al. (2017). Design and Development of a MODBUS Automation System for Industrial Applications. In 6th IEEE Int. Conf. on Computer Application and Electrical Engineering, Roorkee, India, pp.515-520.

Sharma, S., **Kumar, S.**, Keshari, A. et al. (2015). A Real Time Autonomous Soldier Health Monitoring and Reporting System Using COTS Available Entities. In 2nd IEEE Int. Conf. on Advances in Computing & Communication Engineering, Dehradun, India, pp.683-687.

Kumar, S., Das, T.K., and Laskar, R.H. (2014). Significance of Acoustic Features for designing an Emotion Classification System. In 8th IEEE Int. Conf. on Electrical and Computer Engineering, Dhaka, Bangladesh, pp.128-131.

Technical Skills

Softwares: MATLAB, Scilab, KiCad, FreeCad, LaTeX, Camtasia Studio 8.
Hardwares: Sensors, Actuators, GSM Module.
Platforms: Linux, Windows 2007/8/10.
Languages: Qt, C, C++, R.

Honours and Awards

- SMVD University silver medal for first position in the batch. 2018
- Erasmus Mundus Master Scholarship (reserve candidate). 2017
- NTHU Taiwan International Student Scholarship. 2016
- HDFC Bank || 'ECSS' – Educational Crisis Scholarship Support. 2014-16
- Foundation for Excellence Scholarship. 2012-16
- Student Merit cum Means Scholarship at SMVD University. 2012-14
- Sahara India Scholarship for excellent academic performance. 2010
- Certificate of Merit from CBSE for being among top 0.1% students in Secondary School Examination in the country. 2009

Extra-curricular Activities

- Participated in Blockchain Bootcamp organized at IIT Bombay. 2018
- Volunteer at Scilab-Arduino workshop organized at IIT Bombay. 2015
- Student Coordinator of Training & Placement Dept. at SMVD University. 2014
- Represented SMVD University at 4th Indian Students' Parliament at Maharashtra Institute of Technology Pune, India. 2014
- First in the literary event ALL IS NOT WELL at TITIKSHA 2K13 at SMVD University. 2013
- Sponsored Japan tour as a JENESYS (Japan-East Asia Network of Exchange for Students and Youths) candidate. 2007

Declaration   I hereby confirm that the information provided in this document is accurate and true to the best of my belief and knowledge.

Sudhakar Kumar

Date: August 24, 2018   IIT Bombay