



Department of IT & BT



COMPUTER SOCIETY OF INDIA

SIG-Formal Methods

&

ISE Department , R.V. College of Engineering

Faculty Development Programme (FDP) for faculties of Engineering Colleges

Theme “Advances in Computing Tools & Technology [ACTT]”

On Friday, 11th August, 2017 & Saturday 12th August, 2017

Venue: ISE Seminar hall, R.V. College of Engineering, Bangalore - 560059

Hands on workshop

Time	Topic
10:00 – 10:15	An Introduction to CoreEL & MathWorks
10:15 – 11:15	Understanding MathWorks Products <ul style="list-style-type: none"> • MATLAB R2017a Introduction • New features & modifications in R2017a • MATLAB software documentation • Introduction and features of MATLAB toolboxes
11:15 – 11:30	Short Break
11:30 – 12:15	Machine learning & Pattern recognition <ul style="list-style-type: none"> • Introduction to Statistics & machine learning toolbox. • Introduction to classification and pattern recognition • Introduction to classification learner <p>Hands on: Training a classifier using app, deploying the classifier for classification in MATLAB, Solving cancer detection problem, classification using KNN algorithm.</p>
13:00 – 14:00	Lunch Break
14:00 – 15:00	Neural network & fuzzy logic design <ul style="list-style-type: none"> • Introduction to Neural network & Fuzzy logic toolbox. • Classification of cancer cells using neural network. • Solving the tipping problem using fuzzy inference system. <p>Hands on: Wine classification using neural network, Deployment of FIS in Simulink.</p>
15:00 – 15:15	
15:15 – 16:15	Internet of Things Overview <ul style="list-style-type: none"> • Introduction to Thingspeak . • Writing to Thingspeak channel. • Reading data from Thingspeak channel. <p>Hands on Session on IOT: Hands on session on Arduino and Some case studies demo.</p>



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Time	Topic
10:00 – 10:15	Introduction to MATLAB and BIG DATA ANALYTICS <ul style="list-style-type: none"> • Introduction to Big data • Data Analytics work flow • Big Data work flow • Tall Data types in MATLAB Structured and Unstructured Data types
11:15 – 11:30	Short Break
11:30 – 12:30	Introduction to MATLAB MOBILE <ul style="list-style-type: none"> • Overview of MATLAB Mobile. • Collecting real time data from mobile sensors. Hands on MATLAB Mobile: Collecting real time sensor data from following sensors like: Acceleration, Angular velocity, orientation, magnetic field and GPS.
13:00 – 14:00	Lunch Break
14:00 – 15:00	Hands on MATLAB Mobile: <ul style="list-style-type: none"> • Data visualization of collected real time sensor data • Some live demos and case studies will be showcased as a part of this session.
15:00 – 15:15	Short Break
15:15 – 16:15	Hands on Session <ul style="list-style-type: none"> • MATLAB and Tall array in action • Provide a framework for Big Data Analytics • Using NYC taxi data set demo using Tall array with Big Data.(In this demo we are going to use publically available NYC yellow cab data set and produce heat maps of yellow cab pick-ups over the same geographical area)



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Checklist for Workshop:

Hardware requirement:

1. **Lab computer / Laptop with internet connectivity with no firewall or internet login credentials.**
2. **Internet Wifi connectivity for mobile and laptop.**
3. 1 machine for 2 participants.
4. 4 Gb RAM.
5. Windows 7 and upwards (Service Pack 1).
6. Speakers to play video.
7. Projector.
8. Collar mike.
9. White board with marker.

Software requirement:

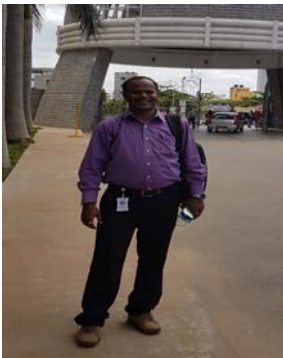
1. MATLAB and Simulink with all toolboxes

Profile of the presenter:

Pramod Kumar Naik

Senior Application Engineer (Mathworks products)
CoreEL Technologies, Bangalore.

Post Graduated from VTU PG studies, VTU Belgaum in VLSI DESIGN .Graduated from VTU Belgaum in E&EE, he has 8 years of experience. He has published 22 papers in both Nation and International Journals.



Manishankar

Application Engineer (MathWorks products)
CoreEL Technologies, Bangalore.





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Post Graduate Diploma from CDAC-NOIDA, in Integrated VLSI & Embedded Systems. Graduated from Anna University Coimbatore in ECE, he has 2 years of experience on MATLAB for Image processing, Image Acquisition and Computer Vision. He has worked as MATLAB Developer for one year in Spiro solutions Pvt Ltd, Chennai.

Mr Parameshwara L Naik

Manager-CoreEL University Program

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