LAKSH BHATIA

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EDUCATION

Aalto University, Helsinki *2016 - Present*
Masters in Embedded Systems and Minor in Innovation and Enterprenurship

Technische Universität Berlin *2015 - 2016*
Masters in Embedded Systems and Minor in Innovation and Enterprenurship

Birla Institute of Technology and Science, Pilani *2011 - 2015*
B.E.(Hons.) Electrical & Electonics Engineering

PROFESSIONAL EXPERIENCE

Postgraduate Thesis Feb 2017 - Present
Distributed Cyber-Physical Systems with UAVs
Advisor- Dr.David Boyle,Research Fellow, Imperial College London

· Designing a closed loop system for the collection of data from embedded devices in remote location with UAVs and recharging those devices using the UAV.

Airfy GmBH Feb 2016 - Jul 2016
Embedded Systems Intern *Berlin, Germany*

· Designed new IoT devices using LoRa for communication and STM32 and Nrf51 microcontrollers.

Undergraduate Thesis Aug 2014 - Dec 2014
Development and Deployment of a Permanent Wireless Sensor Network Testbed
Advisor- Prof.K.R.Anupama,Associate Professor, BITS Pilani KK Birla Goa Campus

· Designed a permanent wireless sensor network testbed which will be deployed campus. This testbed contains a network of TelosB motes and the server is hosted by a cluster of raspberrypis.

Professional assistant for the course Digital Design Aug 2014 - Dec 2014

· Assisted the Professor in conducting the labs for Digital Design

PUBLICATIONS

Development of Test-bed Set-up for Underwater Acoustic Communication and Sensor Network
Sarang Dhongdi, K R Anupama, Mayank Joneja and Laksh Bhatia

National Symposium on Acoustics, NSA 2015, Oct. 7-9, 2015

PROJECTS

Implementing a SHA3-256 cyrptographic system Sep 2016 - Oct 2016

· Implemented a SHA3-256 cryptographic system in C.

Dynaway Jan 2016 - Jul 2016

· A unique bicyle navigation system that is powered by dynamo and displays the navigation with LEDs.

Swarm Robotics May 2016 - Aug 2016
-Dr.-Ing. Vlado Handziski, TU Berlin, Germany

· Collaborative path planning and navigation with a turtlebot and an overload Kinect.

Distributed Wi-Fi Sniffer Nov 2015 - Mar 2016
-Dr.-Ing. Vlado Handziski, TU Berlin, Germany

· Designing a Distributed Wi-Fi Sniffer to monitor the state of the environment to get a more realistic estimate while performing experiments.

Marauder's Map Nov 2015 - Mar 2016
-Dr.-Ing. Vlado Handziski, TU Berlin, Germany

· Designing an Indoor Localisation Based system on the existing Twist Infrastructure using weighted centroid and RSSI fingerprinting.

FlappyRL - A Reinforcement Learning system for Flappy Bird Oct 2016 - Dec 2016

· Q-Learning and MCTS based implementations for Flappy Bird implemented using OpenAI Gym.

Custom Wireless Sensor Network node Jan 2014 - May 2014
-Prof.K.R.Anupama, Associate Professor, BITS Pilani, India

· Developed a custom mote (based on MSP430 and XBEE) in EAGLE CAD along with the necessary platform files for TinyOS and subsequently tested prototype printed circuit boards for deployment in academic testbed scenarios.

MAC Protocol for Underwater Acoustic Sensor Networks Jan 2014 - May 2014
-Mr.Sarang Dhongdi, Lecturer, BITS Pilani, India

· Deployed a miniature test bed of Simple Acoustic Modems interfaced with TelosB motes running TinyOS to analyze the performance of simple TDMA based MAC protocol and time synchronization.

TECHNICAL STRENGTHS

Programming Languages	C, C++, nesC, Python, Android Development, Verilog, JavaScript, HTML, CSS.
Tools	TinyOS, RiotOS, LoRaWan, Robot Operating System(ROS), MQTT, Cooja Simulator, EagleCAD, Flask, Proteus, Matlab.
Hardware Used	STM32L1, Arduino, Raspberry Pi, TelosB, Xbee, Turtlebot, TI CC2520 and 430 SOCs, CC3200, SX127x.

OTHER ACHIEVEMENTS AND ACTIVITIES

- Best Idea, Venture Campus , TU Berlin
- Best Enterprenual Team , Summer School , Karlsruhe Institute of Technology
- Finalist for Faculty4Makers Challenge, TU Berlin
- Co-Founder and mentor of Quark Summer Technical Projects
- Coordinator for Workshops at Quark 2014,technical festival of BITS Pilani Goa Campus
- Curator of the IG-Nobel conference held during Quark.