LAKSH BHATIA

Pohjoinen Rautatitektau 29 A 511 ◇ Helsinki 00100

(+358) · 403 · 705677 ◇ bhatialaksh3@gmail.com

Linkedin ◇ Blog ◇ Github

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
Overall GPA: 8.28

PROFESSIONAL EXPERIENCE

Airfy GmBH   Feb 2016 - Jul 2016
Berlin, Germany

Electrical Hardware Engineer

Undergraduate Thesis   Aug 2014 - Dec 2014
Development and Deployment of a Permanent Wireless Sensor Network Testbed

Designed a permanent wireless sensor network testbed which will be deployed at BITS Pilani KK Birla
Goa Campus. This testbed contains a network of TelosB motes and the server is hosted by a cluster of
raspberrypis.

Reliance Communications Limited   May 2013 - Jul 2013
Mumbai, India

Graphical User Interface for budget Estimation and forecasting while laying down Optical fiber cables.

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

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

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

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

· 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
-Dr.-Ing. Vlado Handziski, TU Berlin, Germany   Nov 2015 - Mar 2016

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

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

· 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
-Mr.Sarang Dhongdi, Lecturer, BITS Pilani, India   Jan 2014 - May 2014

· 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.

A Protocol Stack for Condition Based Monitoring of Pipelines
-Prof.K.R.Anupama, Associate Professor, BITS Pilani, India   Aug 2013 - Dec 2013

· Designed a time-synchronization based complete protocol stack on TinyOS platform using a test-bed of TelosB motes(funded by Gas Authority of India Limited).

Power Saving System for Domestic Applications
-Prof.K.R.Anupama, Associate Professor, BITS Pilani, India   Jan 2013 - April 2013

· Designed an 8051 based system (using Embedded C) for any connected wall power socket with an in-built feature of on-off time based weekly scheduling. This setup was later simulated in Proteus for system verification.

Implementation of the MIPS Architecture
-Dr Biju Raveendran, Assistant Professor, BITS Pilani, India   Jan 2013 - Apr 2013

· Implemented the MIPS Architecture in a single cycle and multicycle implementation using the XIlinx ISE design tools and ModelSim.

Smart Air Conditioning System for a conference room
-Prof.K.R.Anupama, Associate Professor, BITS Pilani, India   Jan 2013 - April 2013

· Implemented an assembly language based design using a servo motor based smart ac system for a conference room to control the vents of a air conditioner based on the number of people in the room.

Multi Cycle MIPS Architecture in VLSI design
-Pravin Mane, Lecturer, BITS Pilani, India   Jan 2013 - April 2013

· Implemented a multi cycle MIPS Architecture using RTL compiler and the Encounter Place and Route and Virtuoso Tools of the Cadence Design Suite.

Pocket Headphone Amplifier for Guitarists   Aug 2014 - Dec 2014

· Designed a pocket Headphone amplifier based on the Chu Moy amplifier circuit with 3 channel tone control and effects using a Digital Signal Processor for the guitar input.

Android Application to provide an interface for milk dispensers   Jan 2014 - Mar 2014

· Designed an Android application to communicate with the embedded controller in a milk dispenser over the serial interface.

Wearable emoticon display   Jan 2015 - Mar 2015

· Designed an android application for a wearable emoticon display created by interfacing a Nokia 6610 LCD and a Raspberry Pi.

TECHNICAL STRENGTHS

Programming Languages	C, nesC, Python, Verilog, Android Development, JavaScript, HTML, CSS.
Tools	TinyOS, RiotOS, LoRaWan, ROS, MQTT, Cooja Simulator, EagleCAD, ModelSim, PSPICE, Flask, Proteus, MATLAB.
Hardware Used	STM32L1, Arduino, Raspberry Pi, TelosB, XBEE, 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

- Qualified for Texas Instruments Innovation and design challenge 2015

- Selected for the MIT Media Labs Workshop India

- Coordinator for Workshops at Quark 2014,technical festival of BITS Pilani Goa Campus

- Curator of the IG-Nobel conference held during Quark.