Subin E K

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Research Interest	My principal fields of interest are **Mobile health diagnosis, Bio-instrumentation, Signal Processing & Machine Learning**. Specially I am interested in building Mobile devices with **advanced user interface and design**	
Education	**National Institute of technology Calicut** (NIT Calicut) B.Tech Biotechnology GPA:7.8/10 (Top 10% of the class)	June 2013 – 2017 (Expected)
Research Experience	**Machatronics Lab, NIT Calicut** Calicut India • Genetic Algorithm for PID tuning • Genetic Algorithm for Machine learning **Department Of Biotechnology, NIT Calicut** Calicut India • Worked On Protein Networking • Process Design for Bio Plastic Production • Study on Effects of magnetic field on Bacteria **Robotics Interest Group, NIT Calicut** Calicut India • Working on Projects in Healthcare and Biomedical Applications • Tasks Involving CAD modeling , Circuit Design and Programming • Product Development in Mobile Healthcare devices • Training on PLC & NAO Robot	Under Graduate Researcher August 2014 – Present Under Graduate researcher August 2014 - 2015
Projects	**Cube Stetescope** *Hardware Developer & Design | Mechatronics Lab, NIT Calicut* • Cube stethoscope is an Advanced stethoscope with capability of ECG • Small Portable device which is a stethoscope and a ECG Machine • Integrated with Android Application for data Extraction • Ability to work as a medical grade ECG Device	April 2015 - 2016

Artificial Intelligence Based Line Follower April 2015 – 2016

Hardware Developer & Algorithm Design | Mechatronics Lab, NIT Calicut

- Line Flower Robot which learns how to solve a loop
- Based on Genetic Algorithm for path recognition
- Algorithm Developed on Both C and matlab
- Developed on Arduino Platform

Cube PCR August 2014 – Present

Hardware Developer & Design | Mechatronics Lab, NIT Calicut

- DNA Amplifier Based on PCR Protocol
- One of the cheapest PCR Machine available in market
- Dedicated Android Application for Control and timing
- Presented at Delhi Technical Festival

RIG 3-D Printer August 2014 – 2015

Firmware Developer & Design | Mechatronics Lab, NIT Calicut

- 3-D Printer with Indigenous Algorithm for Printing
- Uses G code stored In SD Card
- Prints PLA with 1000micron precision

IMFG(Intense Magnetic Field generator for Acute Bacterial Infections) June 2014 – 2015

Hardware Develepor & Design | Microbiology Lab, NIT Calicut

- Based on effect of Intense magnetic field on Bacteria
- Variable 1T Magnetic field inactivates Bacteria in a host organism
- Zero side effect and viable for antibiotic action

Genetic Algorithm for Bioreactor calibration Aug 2014-2015

- Calibration method for components in feed concentration
- Uses genetic algorithm

Pollution Controller For Vehicles Jan 2012 – 2014

Hardware Developer & Design | Self motivated Project

- External Pollution controller for two wheelers
- Based on Electrostatic Precipitation, Bacterial Activity and Chemical reaction
- Presented at Techfest IIT Bombay

Publications	Subin E.K,**Soumya***Protein relation in foot ulcer and diabetics
Academic Recognitions	• **Best Outgoing Student** 2007 – 2010 *Govt Higher Secondary School Kuttikkattoor | Calicut , India* (Awarded Full A+ in Secondary school leaving certificate) • **Ranked 250 in Engineering domain of Undergraduate entrance exam of 20000 odd students (99 percentile)**
Technical Competition	**iFast Bhopal - MANIT, Bhopal India** March 2015 Cube PCR | The DIY PCR for students Status : Represented NIT Calicut from Robotics Lab **Techfest 2014 – IIT Bombay, India** August 2014 Pollution Controller for vehicles | Low cost Pollution control mechanism Status : (Finalist)Selected Among top 200 Projects from Asia Pacific **Srishti 2014 – NIT Calicut, India** April 2014 Pollution Controller for vehicles | Low cost Pollution Control mechanism Status : Selected among top 20 projects **State Science fair – Trivandrum , Kerala India** 2011 Pollution Controller for vehicles | Low cost pollution control mechanism Wnner : Secured grade A in competition **Invent Now – Discovery channel , USA** 2010 Liquid Sand Trap | Advanced security system for home Status : Selected among top 100 projects
Relevant Courses	Signal Processing , Machine learning, Linux, Bio informatics

Skills	Programming : C, Java ,Android Editors : Eclipse platform : Windows XP/7/8, Mac OS, Linux/UNIX Packages : Matlab, Cytoscape, Git, LATEX , Android studio Hardware : Arduino, MSP, Raspberry Pi

Association & Organizations	• Hack Bio International, International Organization • Robotic society of india • Robotics Interest Group, India • Biotech Association, NIT Calicut
Organizational Activities	**Core Team – Robotics Interest Group -** As a part of RIG core team at NIT, Helped to Organize technical talks, Workshops and Exhibitions **Support Team – Hack Bio –** As a part of support team helped members in Hardware design & coding
Reference	**Prof. Sudheer A P** Associate Professor Robotics Interest Group Mechatronics Lab National Institute of technology Calicut, India Ph : + **Prof Suchithra** Associate Professor Dept. Of Biotechnology National Institute of technology Calicut, India