SWATHI G. NAYAK

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EDUCATION

MS in Embedded Systems, 2015-2017
University of Pennsylvania

BE in Instrumentation Technology, 2010-2014
B.M.S College of Engineering, Bangalore, India

SKILLS

Programming - Android, C, CAPL, Java, Python, HTML
Tools – CANoe, CANalyser, MATLAB, LabVIEW
HW – Arduino, Raspberry Pi, mbed, RF tech
Management – Supply chain, Market research

PATENTS AND PUBLICATIONS

'Improved Expression of Breast Milk via Automated System and Method for Managing Pumped Breast Milk' – Patent filed on 8th June 2016, application Number 62/347,321

'Heart Beat Based Braking System in Vehicles' - Patent Application Number 4477/CHE/2013 * Received Technical Quality Improvement Program (TEQIP) sponsorship * Selected as one of the best final year thesis * Placed Second in 'Concepts Presentation' organized by ISA student body.

'A method and system to find precision on key from a plurality of keys for a lock' - Patent Application Number 3911/CHE/2013 * Received Technical Quality Improvement Program (TEQIP) sponsorship

'Smart Stick for the Visually Impaired' - Fifth International Joint Conference on Advances in Engineering and Technology

WORK EXPERIENCE

Co-founder & CIO at Keriton
Architect behind the IoT solution for Pumped Breast Milk management. Worked on Arduino, Raspberry Pi and RF technology to develop the product for Beta Release. Managed a team of MBA interns and played a significant role in Fund raising, Supply chain management, Market Research, etc.

Graduate Teaching Assistant, University of Pennsylvania
Assisted in tutoring Senior level undergraduate students for a Medical Device course by providing hands on tutoring in Arduino programming. At the end of the semester the students were successfully able to build their own Medical device.

Software Engineer, Delphi Automotive System, Active safety Business unit
Generated test cases and libraries for Medium range radar and Vision based ECU for automatic cruise control.

Research Intern, Indian Institute of Science(IISc), Department of Aerospace Engineering
Successfully completed the following projects: 8-channel data acquisition system, Synthetic inductor and Charge Amplifier

PROJECTS

Distributed chat system – Designed a reliable, dynamic, multithreaded UDP based distributed chat system in C++ using Socket API allowing arbitrary size groups to send and receive message in real time. Features like leader election, encrypted chat messages, totally ordered messages, zero duplication were implemented.

Modelling of a processor Pipeline with implementation of Branch prediction and caches – Handled data hazards, branch predictors and also modelling of a cache function by handling cache misses.

Programming 'PUMA', a light painting robot – Solved for inverse kinematics of a PUMA robot and programming it to draw a desired picture by light painting.

'EmotiLearn' – An assistive kit consists of a wearable wrist band consists of an assistive writing board. Designed a game to provide a visually interactive platform, conditioning the child to repeated visuals to help adapt to the scenarios which are encountered on a daily basis

Autonomous Inventory Management System based on IoT using ESP8266 Thing module – The project automates the process of inventory management by sensing the inventory using force sensitive sensors.

'RotMeNot' app – A software solution built on Ionic, runs seamlessly on all platforms, provides the user a real time inventory status of all the food item in his/her personal space using optical character recognition. The system provide alerts of food items with approaching expiration dates and provide an option to either consume the food item by or donate it.