

# JAY NATHANI

## Contact

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## Skills

JAVA, C, C++, PYTHON

JAVASCRIPT, HTML5, CSS3,  
J2EE, SPRING ORM & MVC,  
XML, SERVLETS, HTTP REST,  
JSON, BOOTSTRAP

MYSQL, ORACLE, JDBC,  
HIBERNATE, HQL

ASSEMBLY, X86, SIMULINK,  
MATLAB, LATEX, PSOC  
DESIGNER, SPI, UART,  
RASPBIAN, RTOS, GITHUB

## Education

Stony Brook University  
Master's of Science Computer Engineering 2016

Sardar Vallabhbhai Patel Institute of Technology, GTU  
Bachelor's of Engineering Electronics and Communication Engineering 2015

## Employment

Global IT Experts Houston, TX, USA  
Mar 2017 to Current  
Java Developer  
• Developed and deployed standalone and web-based applications for clients using MVC frameworks and saved the data on databases like Oracle and MySQL.  
• Used Hibernate and HQL to write queries and view, add, delete and maintain data on the databases.

Fast Track Inc Vadodara, GJ, India  
Jun 2014 to May 2015  
Project Intern  
• Led a group of three and developed a control panel using Raspberry Pi 2.0 to wirelessly control electronic devices.  
• Designed a collaborated Android app that could operate the relays through Wi-Fi for short proximity. Otherwise, a static IP for the controller was used and fed to the android app.  
• Remodeled a control panel for the industrial giant ABB for testing and simulation of density sensors in GIS (Gas Insulated Switch gear) and PASS (Plug and Switch System) hybrid switch gear, that could be operated manually and wirelessly.

## Projects

Student Management System (Personal Project) Mar 2017  
• Developed a University like Student Management System with tables to store Student Information, Addresses of Student, Courses for Students.  
• Linked Students and Addresses table with one to many relation and Students and Courses with many to many relations.  
• Designed an ER Diagram to understand the linkage of tables.

HW SW Partitioning of PSoC Oct 2016 to Dec 2016  
• Programmed a self-improving algorithm to optimize the amount of hardware and software implementation required when a Fast Fourier Transform is executed.  
• The Fast Fourier Transform was coded in PSoC and compiled using a C compiler and was separated in different nodes. An estimation of the execution in assembly language was calculated.  
• The Simulated Annealing algorithm was programmed in C++ pertaining to the cost function that included MAC usage, memory usage and a number of clock cycles of each node. An effective partition in Hardware and Software nodes was the result at the end with minimum cost.

Sound Operated Stop Watch Sep 2016 to Oct 2016  
• Developed a sound based stop watch using the PSoC embedded system kit.  
• Programmed it for a State-flow with 5 main states including Memory state, Push button controlled state, Sound measurement mode timer state, Accuracy state (1sec, 1/2sec, 1/10sec) and Microphone Sensitivity state.  
• Verified the correctness of the state-diagram by simulating it using State-flow on MATLAB.

## Activities

Research Experience · Research Assistant Jun 2016 to Aug 2016  
• Carried out Summer Research on the use of IoT devices to establish cyber-attacks like Botnet and Ransomware.  
• Focused my research mainly on ARM TrustZone technology of cortex controllers and tamper protection technologies of SecureCore.