**Pratik Gangwani**

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**Work Experience \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Compute Platform Architect & Integration Engineer - ADAS Compute Architecture,** GM. 7/2018 – Present

* Assisted in definition of technical requirements and neural network use cases for SoCs.
* Defined requirements, assessed and selected safety microprocessors for future ADAS ECUs.
* Defined requirements, assessed and selected Memory for future ADAS ECUs.
* Managed Linux, Windows, and embedded platform development environment for 3 lab benches.
* Implemented an organized source code management system via git and Bitbucket for developer team.
* Set up defect management system in IBM Rational Team Concert for developer team.
* Created an automated test and results analysis harness on host machines connected to embedded platform using shell and python scripts.

**Joint Venture Electrical Architecture Engineer,** TRACK Rotational Program,General Motors.7/2017 – 6/2018

* Co-Lead providing day-to-day assistance to Joint Venture engineering team in development of their electrical signal database.
* Contributed to closure of ~50 Change Requests throughout development program.
* Co-lead two weekly meetings to assist in resolution of issues between 5 engineering teams worldwide.
* Black Belt Project: Created and documented more efficient process for comparing electrical databases via beyond compare, reducing analysis time by a minimum of 8 hours (~50%).
* Global Document Management Administrator: Handled ~100 requests for data access, sharing, and storage for GM employees and Joint Venture projects.

**Software Engineer, Infotainment 3.0,** TRACK Rotational Program,General Motors. 7/2016 – 6/2017

* Programmed several features and tests in Energy App and System UI in Infotainment 3.0 OS.
* Assisted Vehicle Defects team in closing ~25 defects reported by validation team.
* Piloted and assessed several OS options for Linux development environments.
* Green Belt Project: Spearheaded setup of a local machine to automate daily builds, static-code analysis, and test suite to aid resolving hundreds of code inefficiencies and decreased the number of failed tests by 15%.
* Quickly became an expert in hardware debugging and software update processes on CSM radios to aid ~15+ co-workers in migrating to newer operating systems.
* Rewrote documentation to make developer environment setup and maintenance easier for all co-workers.

**Software Engineering Intern**, ThyssenKrupp Elevators America, Atlanta, GA Summer 2015

* Configured Raspberry Pi via Python, along with various sensors (barometer, accelerometer, gyroscope, ultrasonic) to create a real-time data collection system for various data collection and test purposes.
* Main algorithm uses change in atmospheric pressure via the barometer to calculate the current floor and output all collected system data to a CSV file, within a 2 second cycle once the elevator comes to a stop.
* Designed an Android app to communicate with the Raspberry Pi via Bluetooth to retrieve data files.
* Aided in the design of a 3D printed casing to house the system and properly dissipate heat.

**Skills\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Programming:** (2+yrs.): Assembly, C/C++, Java, MATLAB, Python

**Software:** Linux, Mac OSX, Microsoft Office, Quartus II, Visual Studio, Windows

**Digital Design:** Breadboard Prototyping, FPGA and State Machine Analysis

**Instrumentation:** Soldering, Oscilloscope, Multimeter, Logic Analyzer

**Languages:** English (Native), Hindi (Fluent in speech), French (Elementary)

**Communication:** Presentations, Public Speaking, Technical Reports, and Team Projects

**DFSS:** Black Belt certified

**Education\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Bachelor’s of Science in Computer Engineering**; Georgia Institute of Technology. 8/2012 - 5/2016

**Project Work\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Buzzcard Reader Door Lock**, ECE 4181 Fall 2015

* RFID reader with ESP8266 Wi-Fi board to scan cards, with an Arduino and servo motors to control a lock.
* Communicated ID, room, and time to a MySQL database via a python server to log and grant/deny access.

**LC3b Processor: Computer Architecture,** Georgia Tech, ECE 3056 Fall2014

* Emulated LC3b ISA and multi-cycle microarchitecture via C.
* Programmed a single core 5 stage pipelined processor and a multi-level cache (including DRAM).

**PandaBot,** Georgia Tech, ECE 2031 Fall 2013

* Team project to control a robot using an IR Remote, designed with instant response and 3 speed settings.
* Programmed Altera FPGA, DE2 board, and IR Receiver using Altera Quartus via VHDL and Assembly.
* Used 16 LSBs from the 32-bit IR signal that provide commands are sent into the I/O bus via tri state buffer.

**Activities\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**IEEE Hardware Team,** Georgia Tech Fall 2014 - Spring 2015

* **Software Team Lead**: Head of 4-person team that designed software for Arduino/BeagleBone via C/Python to control motors & phototransistors for line following on a robot for IEEE Southeast Con 2015.

**CEO: One Day Blood Drive Project Inc.** 10/2012 - 10/2015

* Head of a 10-person team that organizes an annual nationwide blood drive on 9/11.
* 2013: 778 units in 2013 via 21 schools; 2014: 1183 units via 26 schools
* Assisted in planning volunteer shifts and service events in Atlanta, as well as blood drives on GT Campus.

**4th Place; USA Archery Southeast Collegiate Championships**, Male Barebow Division Spring 2015