

# ABHINANDAN BURLI



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Actively looking for roles in Embedded Software, Firmware Engineering, System Software Development.

## Skills

- **Programming** : C, C++, Embedded C
- **Protocols** : SPI, I2C, UART, CAN, ISO-TP, UDS
- **Platforms and Real Time Operating System** : FreeRTOS, AutoSAR, STM32, ARM Cortex M4, Nvidia Jetson, Raspberry Pi, LPC 1769, LPC 4078
- **Source Control** : GIT, SVN, IBM RTC, Perforce
- **Tools** : Eclipse, VS Code, XCode, MCUXpressoIDE, IBM Rational Doors, IBM RTRT, Enterprise Architect, Vector DaVinci Configurator and Developer.
- **Debugging** : Trace 32, Logic Analyzer, PCAN
- **Project Management** : Agile, TDD, Gerrit.
- **Operating Systems** : Linux, MacOS, Windows

## Work Experience

**Nvidia Corporation** – Santa Clara, California  
**Software Intern, Embedded**

**May 2020-Aug 2020**

Worked on three intern projects for the Sensor Processing Engine(S.P.E) in Nvidia Jetson Xavier NX BSP

- Supported Demo Applications for peripherals on NX – GPIO, I2C, GTE, TIMER, UART
- Verified latest FreeRTOS release on S.P.E which uses ARM Cortex R5
- Enabled S.P.E peripherals on NX in device suspended state.

**KPIT Technologies** – India  
**Software Developer**

**Oct 2016-July 2019**

- Executed end to end development of software modules from requirement analysis to production testing.
- Created high level and low level design of software using Enterprise Architect.
- Developed modules using C programming and Embedded C, tested them with functional and unit testing.
- Debugged & expanded test coverage. Perform porting and integration testing.
- Validated modules against MISRA C and Quality compliance using QAC and Polyspace.
- Trained and mentored new college hires who joined the project.
- Honoured with High-Flyer Award for proactively resolving critical bugs to increase product stability.

## Recent Projects

- Implementation of **Firmware Over The Air (FOTA) update for CAN based ECU.** **August 2020-May 2021**  
This project includes a web application, gateway controller and a network of ARM Cortex M4 based ECU's. The user uploads the firmware to the cloud server using web application and the gateway controller fetches firmware from cloud server and flashes it on the target ECU using UDS, ISO-TP and CAN. The target ECU has a CAN based bootloader and UDS stack to support the firmware upgrade.  
Git : [🔗](#)
- Developed a **Self-Driving RC car**, that uses four microcontrollers communicating over **Feb-May 2020**  
CAN bus, each performing the operations - Motor Control, GPS Navigation, Sensor- Bridge Control and Driving Logic. Used **Test Driven Development** to achieve project goals.  
Git : [🔗](#) Demo Video : [🔗](#)
- Developed a **Single Player Arcade Game - 'Alien Wars'**. The game uses LED matrix for display, **Oct-Dec 2019**  
Bluetooth based joystick for game controls and MP3 module for game sounds.  
Git : [🔗](#) Demo Video : [🔗](#)
- Implemented **Custom Device Drivers** for peripherals like SPI, GPIO, UART, I2C, ADC, PWM, **Sep-Oct 2019**  
Watchdog and Interrupt handler for LPC4078 micro-controller in FreeRTOS environment

## Education

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**Master of Science:** Computer Engineering(Embedded Systems) (GPA : 3.68/4)

**San Jose State University** - San Jose, CA

**Expected May 2021**

**Relevant Coursework :** Embedded Software, Computer Architecture, Data Structures and Algorithms in C++, Embedded System Applications, Embedded Hardware Design, Advanced Microprocessor Design, System software.

**Bachelor of Engineering:** Electronics and Communication (CGPA: 8.87/10)

**BVBCET(Visvesvaraya Technological University)** - Karnataka, India

**Aug 2012-June 2016**

## Activities/Accomplishments

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- Summer Internship at John Deere Electronic Solutions(2015).
- Completed a course on "Global Immersion in Entrepreneurship and Innovation" as a part of International exchange program, collaborating with students from University of Massachusetts, Lowell to come up with business plan for start- ups(2015)
- Completed an online certified course, "Developing Innovative Ideas for New Companies" from University of Maryland, College Park(2015)
- Completed a summer course on "Product Design and Realization" (2014)
- Freelancing Disc Jockey(DJ) and electronic music enthusiast.