

## Contact

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(LinkedIn)

## Top Skills

Java  
C++  
C#

## Certifications

API Clean and Secure Coding: API  
Secure Coding  
Mobile Security Threats  
SecOps Engineer: Secure Coding

# Tushar Kanti Das

Senior Java Backend Developer | IoT Developer  
Singapore

## Summary

Have a total of 12+ years of job experience as Software Engineer.  
Currently working as back end developer in digital banking platform.

Have 6+ years of job experience in Java/J2EE, Spring/SpringBoot, SOA etc. Worked in a team to develop large scale distributed fingerprint matching server, Bus Depot Management System etc.

Have experience in IoT based application development.

Have 3+ years of experience as C++/VC++ developer. Developed driver software for casino gaming machines in embedded linux system. Also worked in driver software development for USB paired device in windows system. Have experience Account-Based Ticketing System to support EMV cards in public transport system.

Also have experience in C#, Node.js, python, ExtJS etc. Have experience in both windows and linux systems.

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## Experience

SC Ventures | Standard Chartered  
Senior Java Developer  
January 2021 - Present (3 months)  
Singapore

Working in a team to develop back end platform to support digital banking as a service

Bosch.IO  
Lead Software Engineer  
September 2019 - December 2020 (1 year 4 months)  
Singapore

Working as Team Lead to develop software for edge devices in IoT solutions.

Key features includes

- Elevator Monitoring System

- Edge computing, digital signal processing, data analysis etc
  - Handling Bosch sensor device (CISS, XDK, Door, Laser etc) using protocols like serial, Bluetooth, Modbus etc
  - Edge gateway maintenance using OTA (Over the Air) framework etc
- Tools: Node.js, MQTT, VS Code, python, Azure IoT Hub, Event Hub, Jenkins, Jira etc

- ELM Backend: Develop J2EE web application for IoT gateway management. Key feature includes:

- Batch data processing of KPI's received from gateways using Azure Event Hub to trigger alarms
- Expose REST API endpoint for the front end, write unit test, integration test cases using etc
- Implement multi-threaded web crawler using jsoup to process data from REST APIs

Tools Used: IntelliJ Idea 19, Spring boot, Spring data, Junit, mockito, Spring mockmvc, MongoDB, Azure Data Lake, Postman, Github, Docker etc

## MSI Global PTE LTD

### Senior Software Engineer

August 2016 - August 2019 (3 years 1 month)

Singapore

Worked in a team to develop and maintain software for Automated Fare Collection (AFC) System.

Master Bus Depot Control System: This system is used to monitor all bus depots in a central system as well as monitor on local depots ensuring high availability. The web interface is developed in J2EE/spring/ExtJs, Html5/bootstrap using SPA concept and backend is in VC++. Key features includes:

- Live Bus monitoring system implementation that handles high bus traffic in a depot. This includes real time serialized data transfer between the C++ servers, C++ server to J2EE web server maintaining high availability and thread safety, data processing on J2EE server and display on front end in ExtJs using JSon etc.
- Transfer large data file in chunks from browser to the server and vice versa using websocket/JSON string. Includes encode/decode of data stream, data accumulation both on Javascript and server side, handling wrong sequence of file chunk receiving etc

Station Computer: Monitors and maintains all the devices in a station and also communicates with the central server. Provide L3 support on production issues, maintenance and add new features

- Provide design solution on critical issues, involved in full SDLC
- Implement features to support credit/debit cards (EMV) in Account- Based Ticketing (ABT) system.
- Support real time bank card/cepas card processing and responding to gates maintaining low latency
- Support fault tolerance mechanism when one station computer is down: takeover by Failover system, data synchronization among SC, Failover system and Devices etc.

Tools Used: Microsoft Visual C++, Html5, Javascript, JQuery, Bootstrap etc

Traffic Monitoring System: Developed web application to display total trafficking information for every station. This includes displaying real-time data in charts, SQL reporting, User management, multi threaded processing real-time data etc.

Tools Used: Netbeans, Tomcat 8, ExtJS 4, Sql Server 2014, SQL Server Reporting etc

## WeiKe Gaming Technology

Senior Software Engineer

October 2015 - July 2016 (10 months)

Worked in a team to develop Casino Management software for maintaining large scale (2000 machines) discrete casinos in J2EE/spring. Key feature includes 24/7 seamless operation, Live Slot machine's automated application upgrade, Multi-Site based jackpot module development, Live status update of slot machines in central etc.

Tools Used: IntelliJ Idea 13, Spring Boot, MSSql Server 2012, Hibernate, Tomcat, JUnit, Jira etc

## Zenith Infotech

Senior Software Developer

August 2014 - September 2015 (1 year 2 months)

Worked in a team to develop application server for maintaining business fair. Front end web server was developed in J2EE/Spring framework and back end web service was based on Service Oriented Architecture (SOA). Key feature includes: Back end web service development using EJB beans following JPA, Communication between web server and the application server was using

SOAP protocol/wsdl, Payment gateway integration using Paypal, Reporting etc.

# Front end development using Javascript/Jsp/Spring. Key features are Dynamically adding/deleting stalls, Registration module

## WeiKe Gaming Technology

### Software Engineer

January 2013 - July 2014 (1 year 7 months)

Singapore

Worked in a team to develop and maintain driver software for SMIB (Slot Machine Interface Board) device. This SMIB works as an intermediate device between the central server and the end user gaming machines.

- Hard-meter support for SMIB: Developed driver software in C++ to support various event driven casino gaming machines. These gaming machines interact with SMIB through event driven mechanical pulses (hard meter) through serial port (RS232). Key features are:

- o Multithreading to improve performance in resource critical embedded linux system. Reduced pulse missing rate to 5% due to power failure by optimization and multithreading.

- o Write API for simulating (sending and receiving) real time mechanical pulses of different length (8-120 ms).

- o Perform full SDLC cycle of the project following design pattern, prepare unit test cases, hardware response time test cases, logging etc.

Tools Used: boost library, xplc, gdb, wxWidget, automake, shell script, Embedded linux, svn, Jenkins, UMLet etc.

- SMIB Installer: Developed MFC application in VC++ for deploying, upgrading and maintaining OS, Firmware, UI configuration on SMIB machines in the workstations. Key features are:

- o Simultaneously process 50 SMIB devices using multithreading, simplified the software upgrade procedure.

- o Develop Game Machine simulator for load testing SMIB device: multithreading to send data using RS232 protocol.

Tools Used: Microsoft Visual Studio 2008, STL, SVN (TortoisSVN), JIRA etc.

## iTwin PTE Ltd.

### Senior Software Developer

March 2012 - December 2012 (10 months)

Worked in a team to develop driver software in Visual C++ for iTwin paired hardware device that is used for secured file transfer between two remote computers over the network. Some key features are thread safe user interface

development in mfc c++, virtual folder implementation using windows shell interfaces, ATL, COM etc, client-server communication using tcp-ip protocol, secure data transfer over the network by encryption/decryption using open source library etc.

TigerIT Bangladesh Limited  
Senior Software Engineer  
March 2009 - February 2012 (3 years)  
Dhaka, Bangladesh

Worked as a Java/J2EE developer in Linux environment. Used programming languages are J2EE, Spring, jdbcTemplate, jsp, javascript, c/c++, soa, ejb beans etc. Following are few of the projects:

1. Automated Fingerprint Identification System(AFIS), which is top ranked in NIST for fingerprint matching. Contains manager-worker based large scale multi-threaded matching system, scrubbing over 80 million fingerprint images from database(Oracle) and distributing image scrubbing among 50-60 machines by multi-threading. Developed C++ applications for fingerprint matching compatible with 64 bit Intel C++ compiler. Interaction between low level C API and java using JNI calls.
2. Supermarket Management System: A SOA based web application for maintaining supermarkets. Front end was in Spring and back end was in SOA web service. Includes payment gateway integration(paypal), encrypted barcode printing, rfid tag reading etc
3. Adjudication System: Developed web application for verifying matched persons obtained from AFIS. Key features are like pagination feature to collect fixed amount of data from database, massive batch reporting using iText etc.

As a C# developer I used to work in Identity Management System. This includes capturing and maintaining biometric(photo, fingerprint etc.) data of users. I've worked in following projects.

1. Employee management System: Developed desktop application in vb.net for a local garments company. Key features are user role, interfacing with fingerprint device, webcam, signaturepad etc.
2. Safe Family ID Solutions: Developed family information management system in C#. Key feaures are interfacing with various hardware devices like fingerprint, USB, camera, CD burner etc.

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## Education

Bangladesh University of Engineering and Technology

B. Sc. in Computer Science and Engg., Computer Science · (2004 - 2009)