Ankit **Kalbande**

EMBEDDED ENGINEER · SECURITY EXPERT

Annette-Kolb-Anger 2, Ramersdorf-Perlach, 81737 München, Germany

☐ (+49) 017655155443 | ✉ ankitkalbande@gmail.com | 🔗 posquit0 | Ⓢ ankitkalbande

"Be the change that you want to see in the world."

Summary

Current Embedded Design and Security Engineer (Team Lead) in a small company EFR (Europäische Funk-Rundsteuerung) GmbH. 2+ years experience specializing in Embedded Linux based application development and security. Super nerd who loves Vim, Linux and enjoys to play with Linux Kernal. Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises.

Education

TUM(Technical University of Munich)
Munich, Germany

MASTERS OF SCIENCE IN COMMUNICATION ENGINEERING
Oct. 2013 - Oct. 2015

- Embedded System and Security
- Software Defined Networking
- VLSI Design
- Wireless Sensor Network
- System on Chip Design
- Electronic Design Automation
- Network Planning
- HW-SW Co-design System
- Broadband Communication

VNIT(Visvesvaraya National Institute of Technology)
Nagpur, India

BACHELOR OF TECHNOLOGY IN ELECTRONICS AND COMMUNICATION ENGINEERING
Aug. 2009 - Sept. 2013

- Digital and Analog Circuit Designing
- Analog and Digital Communications
- Network Planning
- Embedded System
- Mobile Communication
- Real-time Operating System

Work Experience

Europäische Funk-Rundsteuerung(EFR) GmbH
Munich, Germany

EMBEDDED DESIGN ENGINEER & SECURITY EXPERT (TEAM LEAD)
Jun. 2016 - PRESENT

- Designed BSI (Bundesamt für Sicherheit in der Informationstechnik) compliant secured software architecture for SMGW (Smart Meter Gateway).
- Implemented secured Linux boot workflow for Atmel's SAM5D35 MCU (ARM cortex A5).
- Integrated smartcard with SMGW and ported crypto related functionalities to smartcard.
- Developed RESTful API client to communicate with energy management server.
- Making the SMGW CC(Common Criteria) compliant (ISO/IEC 15408).
- Tools :- Openssl, Buildroot, Wireshark, Eclipse, CMake, Doxygen etc.
- Protocol :- TLS/SSL 1.2, HTTP, ISO7816, NTP, SOCKSV5 etc.
- Platform :- Atmel's SAM5D35 (ARM cortex A5), Broadcom's BCM2837(ARM Cortex A53).

Department for Integrated Systems, TUM
Munich, Germany

DIGITAL DESIGN AND RESEARCH ENGINEER
Dec. 2015 - May. 2016

- Ported the digital design from Chipit to ProFPGA hardware.
- Debugging the bugs in digital design of Network Adapter for InvasIC micro-architecture.
- Tools :- Synplify Pro, Chipitpro, Chipscope, Modelsim and grmon.
- Protocol :- AHB-AMBA, APB-AMBA.
- Platform :- Chipit (Xilinx Vertex-5), ProFPGA (Xilinx Vertex-7).

Department for Real-Time Systems, TUM
Munich, Germany

EMBEDDED DESIGN WERKSTUDENT
Aug. 2015 - Oct. 2015

- Developed RSSI based local positioning system for BLE module NRF51822 using iBeacon.
- Integrated the developed module with existing modules on ARM cortex-M0+ of NRF51822.
- Tools :- GCC, Eclipse, Keil, NRF Studio, GDB etc.
- Protocol :- BLE 3.0 (Bluetooth Low Energy), iBeacon.
- Platform :- NRF51822 (ARM Cortex M0), iBeacon.

Department for Integrated Systems, TUM   *Munich, Germany*

Lᴀʙ Tᴜᴛᴏʀ   *Apr. 2015 - Jul. 2015*

- Lab tutor for HW-SW Co-design lab.
- Tools :- Vivado, ISE, Modelsim, GCC etc.
- Protocol :- Xillybus, AHB-AMBA, AXI-AMBA etc.
- Platform :- Xilinx Zynq-7000.

Department for Integrated Systems, TUM   *Munich, Germany*

Dɪɢɪᴛᴀʟ Dᴇsɪɢɴ Wᴇʀᴋsᴛᴜᴅᴇɴᴛ   *Nov. 2014 - Mar. 2015*

- Developed a new module for HW-SW Co-design lab and wrote the lab manual for the same.
- Developed a video processing accelerator on FPGA (Zynq-7000) and its software counterpart on ARM cortex-A9 processor.
- Tools :- Vivado, ISE, Modelsim, GCC etc.
- Protocol :- Xillybus, AHB-AMBA, AXI-AMBA etc.
- Platform :- Xilinx Zynq-7000.

Siemens (Corporate Research)   *Munich, Germany*

Wɪʀᴇʟᴇss Rᴇsᴇᴀʀᴄʜ Wᴇʀᴋsᴛᴜᴅᴇɴᴛ   *Jan. 2014 - Jun. 2015*

- Developed and implemented algorithm for motion sensing using RSSI values of Wi-Fi communication.
- Worked on distance measurement using time of arrival of Wi-Fi packets.
- Evaluated communication power of Atmel's Wi-Fi module.
- Tools :- Matlab, Wireshark, Tshark, GCC etc.
- Protocol :- IEEE 802.11 n (WiFi).

Skills

Programming Skills	• C, C++, Assembly • Shell , Perl, TCL Scripting • MATLAB, Octave	• VHDL, Verilog, SystemC • Android, JAVA • Omnet++
Job-related Skills	• Embedded Linux Development • Embedded Security • Embedded System Architecture	• Linux Kernel Module and Driver Development • Network Architecture and Protocol Development • Digital Designing and Verification
Tools Skills	• Buildroot, Yocto • GCC (cross compiler), Make, CMake, Automake, Doxygen • Wireshark, Tshark	• Openssl, MbedTLS, OpenPGP, OpenSC • Eclipse, Netbean, Keil, Dave • Vivado, ISE, Modelsim, Synplify Pro
Language Skills	• English (High Proficiency) • German (Beginner)	• Hindi (High Proficiency) • Marathi (Mother Tongue)

Publications

- Ankit Kalbande and Divyesh Dixit ⬚Guardian Protocol for Mobile Wireless Sensor Networks⬚ International Conference on Electronics , Communication and Computational Engineering(ICECCE 2014), Tamil Nadu, India.
- Ankit Kalbande, Divyesh Dixit and K.M Bhurchandi ⬚RFID Based Health Assistance and Monitoring System through a Handmounted Embedded Device ⬚ IEEE 4th ICCCNT 2013,Tamil Nadu, India.
- Ankit Kalbande ⬚Guardian Protocol for Wireless Sensor Networks⬚ IEEE International Conference on Emerging Trends in Electronics, Communication and Networking 2012(Dec), SVNIT, Surat.
- Ankit Kalbande ⬚Laser-based, Low cost and High Accuracy Local Positioning System (LPS)⬚ ICECE(International Conference On Electronics and Communication Engineering) 2012, Chennai.
- Ankit Kalbande, Divyesh Dixit, Prof. Eswar Rao ⬚Optimized, Low cost and Low Power Flash ADC Design⬚ National Conference for VLSI Design and Embedded System 2011, CEERI, Pilani.