**CURRICULUM VITAE**

**Shobin John**

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**Profile**

I am a positive, extremely motivated and hard-working individual who holds a master’s in mechanical engineering and Masters in Renewable Energy. I have nearly 5 years of professional experience in Control System, design and Testing. I am looking for an inspiring and energetic company with technically challenging position in London (30 miles).

Keywords: -Control system, Powertrain test, NI LabVIEW, Simulink, Mechanical and Thermodynamics.

**Employment to date** with skills acquired

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| *Feb 2018 to August2019* |  | *Test and System Control engineer – (Freevalve- Koenigsegg), Sweden* |
| Autonomous Testing- ATI Vision LabView   * Performed durability test on a ‘Electro-hydraulic-pneumatic’ Multi-cylinder engine. * Carried out a 20 hours durability test of *‘Electro-hydraulic-pneumatic’* piston expander/steam engine in terms of stability and power consumption. * Conduct a test for optimizing air driven compressors for Koenigsegg *KG12-2020* * Designed test rig (*Simulink*) and tested various oil pumps and electric compressors- *KG12*   Control system (SW&HW)- Embedded C   * Developed a control system (HW&SW) for oil cooling of a multicylinder engine driven by air compressor. * Implemented voltage boost and current peak and hold method on air/oil regulating solenoids- SiL. * Created a multiple safety functionality in hybrid engine test stand. * Implemented oil level sensor coupled with engine emergency shut-off control. * Implemented control system (HW&SW) for water cooling vs high temperature (140 degree) air and water lines. * Prepared designs of Battery & Hybrid systems and EV Forecourts™ using AutoCAD * Upgraded 5KW electric motor to 33KW with respect to the high load application.   Software and protocol   * Developed a NI LabVIEW system (HW&SW) for ECU/VCU communication- Hardware design and installation of NI components such as cDAQ9188 chassis along with Ethernet, NI9402 NI9862, NI9221, NI9220, RS232, RS485, picoscope4000 and Kvaser Leaflight CAN cable, DMM, current clamp etc. * Generated autonomous LabVIEW code for engine test and DAQ * Experienced with XCP/CCP, CAN and OBD-II automotive standards * Experienced with NXP (Freescale) PPC based automotive MCU’s. In addition, the same knowledge in ARM and PIC. * Utilized ATI Vision software interfaces to control the Freevalve system and modify inputs and outputs-SiL   Mechanical   * Carried out Mechanical analysis of engine test data- Energy consumption, Force of actuator, thermal analysis, Volumetric/isentropic efficiency etc * Generated a compressor map by 1D fluid dynamics internal tools * Troubleshot all kind of mechanical issue while running the multicylinder engine. | | |
| *Feb 2017 till Feb 2018* |  | ***Test and System Control engineer – SCANIA Trucks, Sweden*** |
| * Had a vital role in "Rig Test of Multicylinder Diesel Truck Engine". * Calibrated various sensors including Speed, Oil flow, Airflow, Torque, Pressure, Temperature, Optical valve movement and IC Engine actuator lift, compressor etc. * Finalized best material out of different coated (PVD and WS2) valve train component with contaminated oil. * Designed multiple Powertrain architectures including BEV and HEV * Find out the running-in effect of different powertrain components. * Practical experience in controlling and managing the in-house tribometer by using Labview and Matlab. * Tested power train components (Coated Pin & Roll) by using Labview, Matlab and APT user program. * Developed Labview interface to read Mitotoya vibration sensor along with speed, torque and pressure sensor. * Analyzed Engine Performance with 2D and 3D measurement technique of Wear Analysis. * Calculated isentropic,power and volumetric efficiency by using Coolprop software. * Calculated IC engine test data by MATLAB and Mathematica * Modified Engine room simulation in Simulink | | |
| *Feb 2016 till Feb 2017:* |  | ***Test and System Control engineer – VOLVO Trucks, Sweden*** |
| * Designed “Rig Test Device" using the used DoE method in the Catia V5. * Developed LabVIEW code to engine communication and sensor calibration. * Find out influence of different oil in the system and created temperature control mechanism. * Organized meeting and present development in weekly basis. * Analyzed the quality of life of Coated Pin & Roll- durability test. * Created and maintain structured data acquisition methods (Matlab & C programing) * Automation of closed loop embedded space control system along with Simulink * Optimized coating material and select material combinations of rolling bearing of multicylinder engine components. * Measured surface form irregularity on steel, bronze and PVD components. * Carried out a surface topographical analysis of hybrid vehicle components. * Measured Surface Roughness between Pin & Rollers of HGV multicylinder engine. * Designed wear measurement tool by 3D printing | | |
| *Feb 2016 till May 2016* |  | ***Lean Production Trainee – HGF AB, Sweden*** |
| * Prepared Kanban Chart for Production of Rubber Manufacturing (Lean 5S). * Learned JIT & Lean, Manufacturing Dumbbells Molding Machine. * Investigated bottleneck production flow and improve workflow (QFD analysis) | | |
| *Dec 2014 till June 2015* |  | ***Mechanical project coordinate- SASCO, Qatar (ISO9001,14001 &QHSAS18001)*** |
| * As a project coordinator, managed 87 employees to install MEP (HVAC and electrical) equipment’s of various projects * Finalized suppliers and subcontractors for Mechanical and Electrical Component Installation. * Implemented troubleshooting pattern and BOM of diesel driven cooling system. | | |
| *June 2013 till Dec 2014* |  | ***Project Engineer: IC Room Technology, India*** |
| * Capable of using measurement devices such as Pico scope, Oscilloscope, DMM, Current clamp, etc * Calibrated Torque, speed & Load Sensors with Lab View Program. * Designed NI test stand (SW/HW) for water meter installation * Adapted knowledge in Drilling, grinding, 3D printing, Lathe etc * Prepared BOM and finalizing subcontracting with technical standard ISO9001. * Managed Auto CAD Drawing design review -quality and safety standard. | | |
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**Education and Qualifications**

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| 2018 – 2019 | Masters in Science60cp: Renewable Energy – Hogskolan I Halmstad, Sweden |
| 2015 – 2016 | Master’s in science60cp: **Mechanical Engineering** (Product and Production Development) – Hogskolan I Halmstad, Sweden |
| 2016 – 2017 | Advance Master in Science 30cp: **Tribology** and Functional Surface. Hogskolan I Halmstad, Sweden |
| 2009 – 2013 | Bachelor in Science – Mechanical Engineering – Saint Gits College, India |

**Publications**

* Wear analysis of pin and rollers (IOP journal)
* Friction analysis of multicylinder trucks (IOP journal)
* Running in of super finished surface: volume characteristics with multiscale analysis (IOP journal) (in progress)
* Friction and wear analysis of dirty and virgin oil test (Elsivier journal) (in progress)

**Academic projects and workshops**

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| *Training in Structural Composite Material:* | Made a failer mode analysis (FMEA) of sandwich and honey comb structure (Material selection) |
| *Manufacturing process:* | Manufacturing method of automobile parts |
| *Trainee I KSRTC (Indian Government):* | Troubleshooting of Bus body and chassis. |
| *Implant Trainee in Hindustan Organic Chemical Ltd. (Indian Government):* | Operate and take care of Diesel truck multi-stage boiler |

**Data Skills**

**MATLAB/Simulink** (Post processing, 1D fluid dynamics, GT powertrain, electric circuit design)

**NI LabView (SW/HW)** (ECU & VCU communication); CANalyzer, Peak CAN, RT, FPGA

**ATI Vision/C** (Multicylinder hybrid/electric engine test and control system algorithm generation)

**Embedded C/Phyton (basic)-**Arduino and Raspberry pi projects of battery charging circuit

**Eco Audit**- Material selection of automobile components (powertrain and chassis)

**Catia V5**- Pneumatic actuator part design; 3D printing of tiny particle with high accuracy **Solid works/Solid Edge 2007** (Electric motor drives air compressor in electric engine system)

**Hardware:** PCI/PXI DAQs, NI cRIO, NI-cDAQ, RS232 and RS485, USB, GPIB, TCPIP, RS232, I2C, TCPIP, CAN (In-Vehicle Network).

**ERP** (Basic knowledge)

**Personal attributes**

I am hard worker who works well in a multidiscipline engineering team, able to deliver projects on time with special attention to detail.

**Award**

Unity car design Kepler pod design – Second price for automatic seat and suspension spring design.

**Hobbies & interest**

Reading Bible and listening to music.