

 **JOHARI**

Current employee:Firmware Engineer

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**Personal Profile**

Name : JOHARI

Date Of Birth : March 9th, 1985

Place Of Birth : Kuala Lumpur, Malaysia

Nationality : **Indonesia**

Resident City : Batam Island Indonesia

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**Professional Skill Overview**

* LabVIEW and National Instrument embedded system.
* R&D of Power Electronic Inverter of BLDC motor (Hardware and Control) using C
* Electric Design Engineer in Rolling Stock Company
* Power System Analysis
* PLC

**Summary**

* **Labview firmware programming:**
* Real Time and FPGA program for the Rubber instruments.
* The program will be implemented to the sbRIO, NI cRIO and PCI modules made by National Instrument.
* **Power Electronic Inverter of BLDC Motor Drive:**
* 3-phase inverter circuit design of BLDC motor drive
* Microcontroller programming using C language.
* **Railway experiences:**
* Dealing with tender documents
* Electrical circuit design to integrate each systems on the train
* Electromagnetic Compatibility (EMC) measurement in railway.
* **Power System Analysis:**
* Analyzing power system in power generation
* Protection relay
* Electrical and Control
* Transmission and distribution system

**Career Records**

* **July 2007- July 2010**

Lecturer assistant at Electrical and Mechatronics Department of Batam State Polytechnic Indonesia.

* **September 2011- July 2012**

Research assistant and teaching assistant at power simulation laboratory of Institut Sepuluh Nopember (ITS) Surabaya Indonesia

* **November 2011- April 2012**

Assistant of power engineer at PT.Asahimas Flat GlassTbk-Sidoarjo Indonesia

* **January 2013 - May 2014**

Research Assistant Professor at Power system and protection laboratory of National Taiwan University of Science and Technology (NTUST) Taipei Taiwan.

* **2014 – 2016**

 Electric Design Engineer at Taiwan Rolling Stock Co. Ltd (TRSC) Hsinchu Taiwan

* **2016 - 2017**

 R&D of Hardware and Control Engineer at Naroller Co.Ltd Taoyuan Taiwan

* **2017 - Now**

Firmware Engineer at U-CAN Dynatex Inc. Taichung city Taiwan.

**Academic Qualification Records**

2004-2007: Diploma (A.Md.) in Electrical Engineering at **Politeknik Negeri Batam**,

 Indonesia

2007-2008: NITEC program in Mechatronics Engineering and Pedagogic skill at **ITE**

 Bukit Batok, Singapore

2010-2012: Bachelor Degree (B.Sc.) in Electrical Engineering at Institut Teknologi Sepuluh Nopember (**ITS**) Surabaya, Indonesia

2012-2014: Master Degree (M.Sc.) in Electrical Engineering Department of National Taiwan University of Science and Technology (**NTUST**) Taipei, Taiwan

**Thesis**

**A.Md. :** Micro robot design focus on sensor improvement

**B.Sc. :** Grounding and ground fault protection in the distribution system with

Multiple generators

**M.Sc. :** Programmatic coordination protection between over current and distance

relays using optimization technique for the distribution system with optimal

 DG capacity

**Organization Experiences**

* Chairman of Electrical Engineering student association at Batam Polytechnic **(2005-2006)**
* Committee of **Polibatam Robotic Contest (2009)**
* Committee of **Polibatam Robotic Contest (2010)**
* Trainer of **Polibatam Robotic Contest (2010)**
* Committee of **Indonesia Culture Exhibition/ ICE** **in Taiwan** **(2013)**

**Research Experiences**

* BLDC motor driver focus on inverter circuit design and control
* Improvement of photodiode sensor sensitivity for micro robot
* Harmonic current impact to the power generation of grounding system
* Grounding and ground fault protection in the medium voltage generator
* Coordination DOCR and Distance protection using LP-BA algorithm

**Publication**

DOCR and Distance Relay Coordination Using LP-BA in Mesh Distribution Systems with DG Penetration Optimal Capacity, Conference paper of Power energy 2014.

**Language Ability**

* English (Professional)
* Bahasa Indonesia (Native)
* Malay (Good)
* Tr. Chinese (Basic)

**Professional Qualification Records**

1. **Assistant of Power Engineer PT. Asahimas Flat Glass Tbk. Indonesia (2012)**

**Job Role**

* Designing power distribution simulation as well as protection system.
* Performing grounding measurement in power equipments
* Monitoring power network distribution based on the maximum power capacity in order to perform parallel generator, load shedding and power variation between grid and generator.
* Key skill: **AutoCAD, ETAP and PLC.**
1. **Electrical Design Engineer at Taiwan Rolling Stock Co. Ltd (TRSC) Taiwan (2014-2016)**

**Job Role**

* Dealing with railway equipment technical data for tender document of the project completion based on the costumer’s requirements.
* Coordination with project team and railway supplier for meeting arrangement.
* Technical specification checking related to the costumer’s requirements as well as railway standards.
* Solving problem in the technical issues such as electrical circuit design
* Working in the customer teams, has ability to build close relationships with clients
* Handling of engineering documents (drawings, circuit diagrams, wiring tables, bundle plans, distribution drawings and so on)
* Modifying and revision electrical circuit diagram and electrical drawing
* Generating new documents according to customer’s specification after reading and understanding the contractual requirements, based on some standards such as EN and IEC standards.
* Calculating the energy consumption in traction system as well as auxiliary system on the train using Notch Man softwarein order to simulatethe traction effort curve to produce total power and energy consumption, time curve and speed curve among all stations.
* Dealing with (HVAC) calculation, door system and Traction system, ATP, TCMS and PISC.
* Key skill : **AutoCAD, CATIA, Notch Man and E3.**

**Railway Project**

* Electric Multiple Unit 700 (EMU700)
* Electric Multiple Unit 800 (EMU800)
* Danhai Light Railway Train (Danhai LRT)
1. **Hardware and Control Engineer at Naroller Co.Ltd. (2016-2017)**

**Job Role**

* 3-phase inverter circuit design for BLDC motor and programming **ST** and **TI** **microcontrollers**.
* Power mosfet simulation analysis
* Dealing with **DRV83xx** series of gate driver IC, motor sensor, FOC method.
* PWM measurement and analysis of the inverter’s waveform.
* **Hardware**
* Using Altium Design (AD) Software for PCB design
* Designing and Analyzing the BLDC drive circuit close loop as well as

 open loop circuit

* Troubleshooting and debug 3 phase inverter circuit
* **Firmware control** using **Keil U-Vision and CCS** platforms and C language for BLDC motor control. Microcontrollers IC’s that have been used as follows:
* **ST**
* **Texas Instrument (TI)**
* Key Skills: **C programming, ST and TI microcontroller, Altium Design (AD), Inverter and BLDC.**

 **Achievement**

Designing 3-phase inverter for BLDC motor that will be implemented in the E-Scooter with higher efficiency.

1. **Firmware Engineer at U-CAN Dynatex Inc. (2017-Now)**

**Job Role**

* Rheometer and Mooney instrument machines firmware programming using LabVIEW.
* Updating and modifying program according to the customer requirement.
* Dealing with **sbRIO,** **NI cRIO** and **PCI** modules made by National Instrument.
* TCP/IP, Serial and Ethernet communications programming.
* FPGA and Real Time Programming
* User Interface design for the instrument machines.
* Setting Temperature controller (Thermocouple sensor) and load cell
* Filtering data acquisition and PID controller.

Key Skills: **LabVIEW 2017, FPGA, Real Time, sbRIO, NI cRIO, PCI, Delphi 7**

**Achievement**

Designing firmware program for the Rheometer and Mooney instrument machines with the simplicity either in hardware or software structures.

1. **Others Project**
* **Project with PT. Wilmar Nabati Indonesia (2012)**

 The project is related to the renewal of the power relay protection and grounding systems and the harmonic analysis in 20 MW distribution network.

* **Project with Tai Power Company at Taiwan (2013)**

Performing of resetting, calculation and simulation of distance relay protection in the transmission lines (345 kV and 161 kV)

**Training Have Been Followed**

* Training of Technical-Mechatronics at Institute of Technical Education (ITE) Singapore (July 2007-December 2007)
* Training of Pedagogy at Institute of Technical Education (ITE) Singapore (Mei 2007-June 2007)
* Assesor Training of Indonesian Power Engineers Association (The Professional Certification Body-LSP IATKI) (2009-40 hours)
* Training of Competence in Workplace Assessment from Indonesian Professional Certification Authority (2009- 40 hours)
* ETAP Software training (2010- 40 hours)
* Pneumatic and Hydraulic training from FESTO (2008-80 hours)
* Omron PLC training (2008-80 hours)
* Mitsubshi PLC training (2014-24 hours)
* AutoCAD Electrical 2012 training (2008-16 hours)
* Solid Work 2009training/ 3D design (2009-24 hours)
* TCMS based on Ethernet training (2014-8 hours)
* IV&V training for the railway project (2014-16 hours)
* RAMS training for the railway project (2014-16 hours)
* Matlab & Simulink training (2012- 32 hours)
* CAN Bus training for railway system (2015-8 hours)
* Assembly and Disassembly of Traction motor system by Toshiba (2015-16 hours)
* ST Microcontroller training (2016- 24 hours)
* CATIA V5 training/ 3D design- Electrical Harness Discipline, Electrical Cabling Discipline, HVAC Design, Shape and Digital Mockup (2015-40 hours)
* EMC Measurement in Railway according to EN 50121 and EN 50500 standards (2016-14 hours)
* Selectron PLC CPU831 and CPU727 and HMI (2016- 70 hours)
* **LabVIEW program training about Core 1, Core 2 and FPGA (2017)**

**Computer Skills**

* **LabVIEW programming in Real Time and FPGA platform**
* **Altium Design (AD) for PCB**
* **Eagle PCB Design**
* **C programming**
* **Matlab** / mfile programming and **Simulink**
* **ETAP** and **ETAPStar** **(Advance)**
* **Notch Man** (Railway simulation software)
* **ELCAD** (Electrical design for Railway)
* **PLC programming** software
* **PSIM** software
* **ATP/EMTP** software
* **PSCAD** software
* **PSSE** software
* **CAD** software especially **AutoCAD**, **Solidworks** and **CATIA**
* **Electronics workbench** software
* **Power plot** software
* **E3** Software
* **Microsoft office:** word, excel, power point and Visio
* **Protel 2000 (PCB design circuit)**
* **Microcontroller** programming (ST,TI,AVR Atmega 16, Atmel 80S51)
* **CorelDRAW** graphic design

**Technical Abilities**

* LabVIEW programming in Real Time and FPGA platform.
* BLDC motor control as well as designing inverter circuit
* AC motor Control and DC motor control design
* Electro/pure Pneumatic and Hydraulic systems
* Energy consumption calculation and simulation in the train which related to the speed train, braking system, capacity of traction system as well as operation time
* BLDC motor control using ST and TI MCU
* Designing electrical installation building for some standards
* EMC measurement in railway and rolling stock systems
* Selectron PLC CPU831 and CPU727 as well as the interfacing with the HMI
* OMRON PLC CPM2A and Mitsubishi programming as well as interfacing.
* Power system analysis
* Protection Relay setting based on applicable standard