Curriculum Vitae

PERSONAL DETAILS

Name	**Andi Nurrachmat**
Address	Via Nizza 9, Torino – Italy
Phone	+39 33 49 09 75 59
Email	andi_nurrachmat@yahoo.com
	cnjr87@motorola.com
Languages	English, Italiano, Bahasa Indonesia

EDUCATION

2001 Master's degree in **Embedded System Design,** ALaRI - University of Lugano, Switzerland
Master's Thesis: ***Implementation of Small Virtual Private Computer Network (based on IPSec)***

1999 Master's degree in **Microelectronics,** Department of Electrical Engineering, Bandung Institute of Technology, Indonesia
Master's Thesis: ***Designing and Implementing Java Processor (JVM on hardware) using FPGA Xilinx XC4010***
GPA: 3.16 / 4

1995 Bachelor's degree in Electronic and Telecommunication, Department of Electrical Engineering, Hasanuddin University, Indonesia
Final Project: ***Designing and Implementing Field instruments Emulator for Supervisory Control and Data Acquisition (SCADA) System Testing.***
GPA: 3.08 / 4

COMPUTER SKILLS

Programming	: C/C++, Java (Servlet, JSP, Multithreading, RMI, Networking, Swing, J2ME), VHDL Perl, PHP, Assembler (Z-80/Intel 8085), DOS and UNIX Shell, Symbian Mobile OS API
Database	: MySQL, Ms.Access2000.
EDA	*:* Synopsys, ModelSim, Xilinx Foundation, Matlab
Operating Systems	: Unix, Windows
IDE	*:* Visual Studio, Eclipse
Versioning	: Rational ClearCase, Symbian CBR

RELEVANT PROFESSIONAL HISTORIES

Jan. 2007 – Now **SOFTWARE ENGINEER**, **Motorola-Global Software Group, Turin Italy (Contractor)**

- Being currently involved in MPSoC project.
  The scope of work includes: Mobile phone architecture, Technical requirement tracking, reverse engineering on NAND Flash Memory wrapper, and power/battery management based on MC13893-Atlas chipset and Symbian framework, prototype testing.

- Involved in Intelligent Optimization Service for GSM Network.
- Involved in Large Building Block – An Embedded Computer Cluster project.
  The scope of works covers requirement tracking, developing system patch, code reworking, designing test cases, and executing test plans, actively reporting defects and issues, writing documentation such as technical reports.

- Participated on several training/workshops such as "ArgonLV/Python platform-based mobile phone Architecture design", "Symbian OS internals", "Single Core Symbian OS Baseport", "Symbian Crash Logger and Memory Leak".

Dec. 2004 – Dec. 2006 **RESEARCH ASSISTANT**, **Politecnico di Torino, Italy, - Dept. Automation and Informatics.**

- Involved in CLeAN project (European Project to Address Power Leakage in SoC). The scope of work is to focus on investigating the new leakage-reducing design solutions for low-leakage cache, SRAM, and DRAM memories, include of developing Cache simulator (Standard and Partitioned Cache), designed hardware for the cache's leakage controller using VHDL, synthesized the circuit with Synopsys's 65nm-technology library, created the test bench, performed simulation using ModelSIM, and estimated the power consumption with Synopsys.

- Developed the color approximation techniques for reducing power consumption on Digital LCD bus interface based on **TMDS** and **LVDS** standards. I had written a Java GUI-based **Cool LCD**, a tool that renders BMP image, calculates the power efficiency and generates approximated-BMP image which has low switching activities.

- Studied on AMBA BUS that covered 3 communication protocols for point-to-point or parallel communication, AHB, APB, and Advanced System Bus (ASB). Moreover master-slave concept, bus arbitration, and timing diagram model were also reviewed.

Apr. 2003 – Nov.2004 **SOFTWARE ENGINEER**, **PT.Pilardata Com, Indonesia**

- Joined with the mobile application division for developing the **J2ME**-based products such as "Cell-phone based Remote Control System for home automation", "Accessing DB server via Cell-phone", "Secure Remote-Master Data Exchanging based on JavaMail", SMS-gateway.

Nov. 2001 – Nov.2002 **RESEARCH ENGINEER**, **TIMA LAB, System Level Synthesis group, France**

- Studied on Higher level design methodology for multiprocessor System-on-Chip(MPSoC), wrapper concept, and the model and tool for concurrent HW/SW design.
- Developed the components for MPSoC tool library.
- Wrote shared-memory wrapper for MPSoC using VHDL, and COLIF model. COLIF is the HW design representation based on XML format.

Mar.1996 – Sept 1999 **SOFTWARE ENGINEER**, **PT.Pilardata Com, Indonesia**

- Joined with the consultant team in analyzing and designing the client's Management Information System requirements (*such as: defining the system specification, designing the system architecture, finding the best implementation solution*).

Sept.1994 – Jan. 1996 **ENGINEER, CV.Milano Teknik, Indonesia**

- Implemented the "1200 bps Analog Modem" for radio data packet communication
- Designed and implemented the module of "AD/DA Converter 3 channels (Z80 -based)" for the agriculture product drying machine.
- Designed Telemetry system for sea surface data.

INTERNSHIPS

1994 **PT. Asia Karsa Indah, Indonesia** (4 months)

- Conducted a study on **SCADA** as the remote system for monitoring and controlling the field instruments such as sensors (temperature, pressure, and gas flow), actuators, and alarms at gas pipeline site.
- Designed the emulator of field instruments for **SCADA** testing and implemented on the electronic board controlled by computer. The key electronic components in the emulator are based on ADC/DAC-8 bits, OP-AMP, and PPI-8255
- Programmed a driver using Turbo Pascal for the emulator.

1992 **PT. Nusantara Aircraft Industry (IPTN), *Optronic R&D Division,* Indonesia** (3 months)

- Conducted a study on the concept of Fly by wire-based avionic system.
- Designed and implemented the part of Fly-by-wire emulator (Z80 uP-based) which reads the value of sensors and sending the control signals to actuators.
- Programmed a device driver using Z80 assembler language.

PUBLICATIONS AND RESEARCH PAPERS

- **Andi Nurrachmat**, "Motorola Collection, Loader and Analysis - Anti Virus Protection" (compatibility and performance assessment), *Motorola IOS project technical report, August 2007.*
- **Andi Nurrachmat, Enrico Macii, Massimo Poncino**, "Low-Energy Pixel Approximation for DVI-Based LCD Interfaces*",* ISCAS-06: *IEEE International Conference on Circuits and Systems, Kos Island, Greece, May 2006.*
- **A.Nurrachmat, S.Salerno, E.Macii, M.Poncino**, "Energy-Efficient Color Approximation for Digital LCD Interfaces", ICCD-05*: IEEE International Conference on Computer Design,* pp.81-86, San Jose, California, October 2005.
- **A.Nurrachmat, B.Rahardjo, and H.Supangkat**,"Designing and Implementing to Femto Java (Java Virtual Machine)using FPGA Xilinx 4010" in Proceeding of Seminar on Multimedia & Networking (MULNET2000), Bandung Institute of Technology, March 21-23, 2000.
- **A.Nurrachmat, B.Rahardjo, and H.Supangkat**,"Java Processor Architecture" in Proceeding of Third Workshop on Electro Communication and Information (WECI-III), Bandung Institute of Technology, March 3-4, 1999, pp 7-17--7-20, ISBN 979-95621.