



Mikkel Kirkgaard Nielsen

Tjæreborg Stationsvej 1, 2nd floor, 6731 Tjæreborg, Denmark • +45 28139066 • miki@mikini.dk

○ Profile

Software developer and architect with a hardware background, possessing relaxed attitude, analytical and communicative skills. Always striving for technical perfection but has a well developed commercial sense.

Broad experience within embedded software on numerous hardware platforms, operating systems and programming languages. Core competency lies in the intersection between hardware and software.

Some experience with development, operation and administration of back-end server solutions.

Advocating standardisation and cooperation on a technical level wherever possible. Firm believer in open and collaborative development as practiced in the FOSS (Free & Open Source Software) communities.

Cares about developing solutions that are generally usable, in the broadest possible sense. Dedicated and fierce solution hunter when faced with a problem that needs to be solved.

Family status

Single, living by my own

Two daughters born 2001+2005, whom I enjoy 4 days out of 14

Born

1977-01-17

○ Education

Aalborg Universitet Esbjerg (Esbjerg, Denmark)

B.Sc. E.E., Bachelor of Science in Electronic and Electrical Engineering, Digital Signal Processing (DSP)
1997 – 2001

Aarhus Akademi (Aarhus, Denmark)

High School (stx, studenterkursus)
1996 – 1997

Esbjerg Gymnasium (Esbjerg, Denmark)

High School (stx, gymnasium)
1993 – 1996

Blåbjerggårdskolen (Esbjerg, Denmark)

Primary school, 0th–5th + 9th grade
1983 – 1989
1992 – 1993

Nuussuup Atuarfia (Nuuk, Greenland)

Primary school, 5th-8th grade
1989 – 1992

○ Skills

Embedded software development

Serial based communication (RS232/RS485/TTL/CAN/I2C/USB/Modbus RTU)
Device drivers (proprietary operating systems/Linux kernel)
MCU interrupt routines
Concurrent and realtime programming



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Generic middleware layers
GUI programming (Ultimate++, Ogre, CEGUI, wxWidget)

Hardware platform experience

ARM (BeagleBone Black, Raspberry Pi, STM32)
m68k architecture (m68331)
x86 based architecture (dedicated mainboards using SoM STX, COM-Express and PC/104form factor)
Atmel based microprocessor systems (proprietary, Arduino based)
Schematic reading capabilities

Software platform experience

VRTXmc realtime kernel
Linux kernel (customisation, patching & building, driver maintenance)
GNU user space tools (Debian/Ubuntu based distributions)
POSIX API programming
VMware based virtual hosting environment
Microsoft Azure Cloud environment

Programming Languages

ANSI C (Microtec m68k, GCC x86, GCC Atmel AVR)
ISO C++ (Microtec m68k, GCC x86)
POSIX Shell scripting (GNU Bash)
PHP (server side scripting)
Javascript (Node.js console application)
Python (various minor glue scripts)
Java (JRE desktop / JavaCard smartcard application)

Personal interest in various other high level languages (LISP, Go, REBOL, Clojure, Rust, GNU Guile etc.). Also some interest, but lacking experience, in various HDL languages (VHDL, Verilog, Chisel etc.).

Preferred tools

POSIX shell (command line)
Emacs
Git
Subversion

Human Languages

Danish, native textually and orally
English, near native textually and experienced orally
German, intelligible orally, not recommended textually

Generally very meticulous about written communication

○ Experience

2013-12-01 -> now

Vestergaard Company A/S, Bramming, Denmark

Software developer, Data Transmission Systems department

- Daily operations of hosted PHP application (web and M2M APIs) deployed in external datacenter (Linux server setup, management and administration in dedicated VMware vCloud environment and Microsoft Azure Cloud).
- Maintenance and development of embedded firmware for airport Ground Support Equipment (GSE) products such as vehicles for aircraft deicing, wastewater removal and water refilling. Primarily in languages Delphi and C++.
- Development of software client using Node.js and MQTT for receiving, enhancing and relaying ADS-B transponder information from embedded devices deployed at airports to backend server for utilisation of flight data in deicing workflow.
- Upgrade of embedded Linux system from using standard distribution to using a reconfigurable build process utilising the Yocto meta distribution.



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- General Linux and systems "go-to guy" for the department.

2001-02-01 -> 2013-11-31

CompuGame-DAE A/S (until 2012 Compu-Game A/S), Esbjerg, Denmark

Software developer (senior), R&D department

- Maintenance of firmware for existing AWP (amusement with payout) slot machine gaming platform at system level (ie. not specifically game design). m68k based hardware, VRTXmc microkernel, software mostly C intermixed with a few components in C++.
- Development and maintenance of firmware for an AWP interconnection box, which reports revenue and earnings directly to the Danish tax authorities. m68k based hardware, VRTXmc microkernel, software mostly C intermixed with a few components in C++.
- Member of industry wide standard group coordinating the development and operation of the above mentioned system for tax reporting.
- Key developer (HW specification, SW architecture design and SW implementation) of completely new AWP gaming platform. x86 based hardware, Linux kernel, lower middleware layers in C, higher level application layers in C++.
- Release management and tool-chain responsible for the entire department.

2007-03-01 -> now

Mikini Services

Independent one-man show

- Small scale consultancy and IT services
- Centered around own skills and interests

○ Volunteer Experience

Member of board in local IDA Esbjerg association (IDA=The Danish Society of Engineers).

Co-founder of local makerspace GeekLabs.

Previously active in Coding Pirates, Esbjerg.

Active in various open data and open source projects, including:

- Wikipedia, open encyclopedia
- OpenStreetMap, open geographical data
- TED Open Translation project, subtitling of the great TED talks

○ Personal Facts

Man of nature, working to achieve a minimalistic and resource-conscious lifestyle.

Avoids alcohol, bottled water, heavily processed food and programmed television.

Avid runner since 2008 (from 2012 mostly barefooted), completed 3 marathons.

Paraglider pilot since 2010 in paragliding and hanggliding club OP87.

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