

Curriculum Vitae: Tomi Junnila

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Professional Skills

SoC design

- Several SoC integration projects, including subsystem integration responsibility.
- Trace & Debug architecture, including ARM CoreSight and standardization work (MIPI Debug Workgroup, USB Debug Framework)

SoC verification

- SoC co-verification software design (C, C++ and assembly mostly for ARM and TMS320C55x processor cores)
- SoC co-simulation wakeup responsibility
- IP-level test bench development for reuse in ASIC-level verification
- Production test vector creation and validation

IP design

- MIPI System Trace Protocol design, implementation and verification (versions 1 & 2)
- Architectural design for IP for trace over USB
- 3GPP Rel 1999 Searcher IP implementation and verification

Software design

- Object-Oriented Design
- Web application design (ASP.NET Core, Typescript)
- Windows application design (WPF)
- Low level driver design
- Qt C++ framework
- Database design and administration (SQL Server, PostgreSQL, MySQL)

Programming languages	Assembly	ARM: extensive, TMS320C55x: limited, x86: limited
	bash/zsh	good
	C/C++	extensive
	C#	extensive
	Delphi	several years
	Java	limited
	JavaScript & TypeScript	good
	perl	some
	Python	extensive
	SystemVerilog	extensive
	Tcl/Tk	limited
	tcsh	some
	VHDL	extensive
	XSLT	limited
Software frameworks	Angular 1	some
	ASP.NET Core	good
	ASP.NET MVC & Web API 1-4	good
	React	limited
	Vue	some

Work History

2015–present	Senior Staff R&D Engineer, Nordic Semiconductor • SoC verification • Subsystem verification • Subsystem design & integration • IP design
2013–2015	Software Engineer, Cadmatic oy • Full stack software engineering on the CADMATIC eShare digital twin platform
2008–present	Owner, Other Alien Software • Developing accounting and on-board ship stability software in C# on the ASP.NET Core platform

2007–2012

Staff Engineer, SoC verification, STMicroelectronics / ST-NXP Wireless / ST-Ericsson

- Industry standardisation
 - Company representative in the MIPI Debug Workgroup, and the USB Debug Framework
 - Author of the MIPI System Trace Protocol v2, MIPI Debug Adaptor for USB, and MIPI Debug Adaptor for UniPro
- SoC verification
 - Verification platform architecture and design in ARM assembly language, C and C++
 - Verification planning
 - Software implementation
 - SoC wake-up
- SoC architecture design
 - Participated in Trace & Debug architecture design
- IP architecture design
 - Trace & Debug IPs:
 - MIPI System Trace Protocol v2
 - Trace Memory Manager for USB
 - MIPI SneakPeek Protocol

1998–2007

Digital ASIC Design Specialist, Nokia Technology Platform

- Industry standardisation:
 - Participating in the MIPI Debug Workgroup (then Trace & Debug Workgroup)
 - Author of the MIPI System Trace Protocol v1
- SoC verification:
 - SoC co-simulation wakeup responsibility
 - Mostly in C and ARM1176JZF-S and TMS320C55x assembly languages
- SoC subsystem integration
- Production test vector creation and validation
- IP design:
 - 3GPP searcher module
 - System trace interface (including standardisation work into MIPI STP)
 - Module-level test bench development for reuse in SoC-level verification
- Patent

- "A method for time-stamping messages", awarded 2008, with Ossi Lindvall (in use in the MIPI System Trace Protocol)

1997–1998

Software Designer, Ship Consulting Ltd Oy

- Developed on-board ship stability software used on approximately 30 vessels worldwide

1996–1998

Linux System Administrator, Nisamest oy

- Maintained the company's public web server

1992–1996

Software Designer, TOP-Case ky

- Developed accounting and personal finance software in C, C++, Delphi, and x86 assembly language
- Technical support for Proxim wireless local area networks

Education

1993–2001

University of Turku, Master of Science in Electronics and Information Technology
Minor subjects: Physics, Mathematics and Computer Science
Master Thesis titled "Designing a Rake Receiver for the Common Pilot Channels in 3GPP" (2000), eximia cum laude approbatur.

1990–1993

Tuurepori secondary school, Turku, Finland. Baccalaureate spring of 1993, laudatur.

Military Service

1994–1995

Signal corps, current rank captain (reserve).

Responsible Positions

2004–2007

Turku Science Fiction Society, treasurer (2004–2006), board member (2004–2007)

1997–2008

Science Fiction Culture Cabinet at the University of Turku, treasurer (1997–2008), secretary (2006)

2001–2003

Finncon X - Eurocon 2003, member of the organizing committee

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| 1998–2000 | Turku Medieval Society, chairperson |
| 1997–1999 | Finncon 1999, secretary of the organizing committee |
| 1998 | Turun yliopiston rooli- ja strategiapeliseura Tyrmä, treasurer |

Language Skills

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| English | Excellent |
| Finnish | Native |
| French | Poor |
| Swedish | Poor |

Family

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| Marital Status | Married |
| Children | 2 children, born 2004 and 2010 |