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## Emile van Bergen

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Nationality: Dutch

Date of birth: may 21, 1977

Marital status: married, 5 children.

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## Profile

### Professional interests

- To design and build good software and equipment;
- To simplify and improve complex systems.

### Strong points

- Creative and flexible;
- Can approach issues on different conceptual levels;
- Acquires new knowledge and abilities easily;
- Likes to share knowledge and ideas.

### Education

1989-1996 Stedelijk Gymnasium Leeuwarden (Grammar school):  
Dutch, English, Philosophy, Biology, Physics

1996-1997 Dudok volw. onderwijs Hilversum (VWO):  
Mathematics, Chemistry

### Work experience

2006- Senior Software engineer at Q.I. Press Controls  
Team leader research and development for closed loop colour control system  
Architect and lead engineer for the company's new smart camera (mRC-3D).

2000-2006 Freelance technical consultant, business name E-Advies  
Keywords: software engineering, security, internet infrastructure.

1997-2000 Application Development and Consultancy B.V.:  
Software design and development  
Network and Unix specialist  
Technical consultant (contracting).

1996-1997 Rabobank Utrecht:

Systems management in an Windows-3.1 PC / Novell LAN environment

1993-1996 F13 Software V.O.F. (co-founded):

Software design and development (C, C++, Assembly)

Developed graphics libraries and user interface framework in C++ and assembly on DOS, for all applications sold by the company

Made EGA and VGA cards sing and dance

Created real mode debugger with support for all 80386 features.

### **Languages**

Dutch (native), English (fluent), German (passive).

# Curriculum vitae

May 2006 - now

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Company	Q.I. Press Controls
Role	Senior software engineer Team leader research and development
Expertise areas	Software design and development Systems architecture (software, electronics, interfaces, product life cycle) Image and signal processing (FIR and IIR filters, statistics, classification) Network protocol design (image transport, real time press control) Embedded Linux (board bring-up, kernel customisation, management) TCP/IP, Ethernet, RS422, Interbus, Profibus TI C64x+ DSPs, ARM Cortex-A8, ARM Cortex-M3 C, C++ (Borland, GCC, TI Code Composer Studio), Perl OpenCV, Borland VCL, Wt, DSP/BIOS, DSPLink
Activities	<i>General</i> <ul style="list-style-type: none"><li>• Lead engineer in R&amp;D team, responsible for camera-based closed loop colour control system for offset printing presses.</li><li>• Design of TCP/IP protocol for real time control of inking units, press signal acquisition, job control; now part of a multi-vendor industry standard.</li><li>• Responsible for network messaging interfaces between QIPC sub-systems for all products.</li><li>• Bringing people with different expertise together; main contact between the software development, electronics, and physics and mathematics groups.</li></ul> <i>Software and equipment</i> <ul style="list-style-type: none"><li>• Design and development of the company's flagship smart camera. Responsible for architecture, critical component selection, block schematics, systems software, application porting; main contact for the in-company and external experts taking part in the design.</li><li>• Simplified and continued development of the Intelligent Density system, a real time measurement and control system for colour on web fed offset presses. Improved pre-press interface, reference analysis, measurement accuracy, data logistics. Lead the software development team.</li><li>• Designed and built a new high speed camera triggering system. 8 camera's, 12 TCP connections, 4 rotation encoder inputs, field upgradeable, microsecond jitter. Designed block schematics, reviewed schematics, developed software.</li><li>• Improved and stabilized internal C++ libraries; working procedures, version control, portability.</li></ul>

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## Januari 2002 - april 2006

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Company	E-Advies
Role	Independent contractor as software and systems specialist
Expertise areas	Software design and development, infrastructure and systems design Unix (CompaQ Tru64, Debian Linux) Apache, Qmail, DJBDNS, Oracle 8, 8i, 9 on Unix and Windows, MySQL, PostgreSQL, LDAP TCP/IP: HTTP, SMTP, RADIUS, PPP, EAP, TLS (in depth) C, Perl, Bourne shell, SQL, PL/SQL
Activities	<i>General</i> <ul style="list-style-type: none"><li>• Consultancy on business critical infrastructure.</li><li>• Open Source software development, customisation, deployment projects.</li><li>• Lead engineer in startup phase for a Wireless Internet Service provider; was sold to incumbent telecom operator KPN. Responsible for ISP infrastructure software (AAA, DNS, mail, self service), routing, technical aspects of roaming agreements.</li></ul> <i>OpenRADIUS</i> <ul style="list-style-type: none"><li>• Creation, development of OpenRADIUS; deployment projects, business development, sponsorships.</li><li>• Language design for business rule language (infix expression compiler, stack machine); module interface (process supervision, load balancing); fully dictionary driven packet encoder/decoder.</li><li>• Modules in C (LDAP, proxy, EAP, MSCHAPv2, EAP-TLS, EAP-TTLS, PEAP) and Perl (SQL, flat files, session tracking).</li></ul> <i>Oracle/Unix</i> <ul style="list-style-type: none"><li>• Advice, installation, maintenance and tuning for Oracle 8 databases on Tru64 Unix for medium-sized businesses.</li><li>• Emergency troubleshooting, including Unix filesystem recovery; Oracle database recovery. Performing under pressure.</li></ul> <i>Free and Open Source software</i> <ul style="list-style-type: none"><li>• Developed a per-source IP address e-mail rate limiting facility as part of a high performance anti-spam facility in a SMTP mail relay.</li><li>• Designed and implemented RADIUS authentication for management of Linux-based embedded systems. PAM, HTTP, SSH.</li><li>• Successful deployment projects for Debian GNU/Linux, Apache, Qmail, DJBDNS and OpenRADIUS.</li><li>• Participated in the Dutch Debian development community.</li></ul>

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**November 1999 - december 2001**

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Company	KPNQwest N.V. (till november 2000 through AD&C and Mighty Consulting; after that as independent contractor)
Role	Technical Consultant, Software engineer
Expertise areas	Cisco routers and NASes, Ericsson NASes, SUN and intel servers Unix (Solaris, Linux) TCP/IP, PPP, ISDN, RADIUS, LDAP; some H.323 (VoIP) and BGP-4 C, Perl, PL/SQL (Oracle)
Activities	Advised during the development of a new european dial-in platform, focused on authentication and service definition using RADIUS; Wrote RADIUS-based accounting system for Voice over IP service in Perl, interfacing to existing billing systems; Co-developed the technical aspects of two pan-european dial-based services: ISDN Backup and Small Office VPN; Did the technical side of a dial-in network access server vendor selection project; Created a number of extensions for an Open Source RADIUS server in C (L2TP support, flexible LDAP backend support, MD5 hashed passwords); Built an auto-provisioning mailserver for about 15,000 users, based on Qmail, Perl, PL/SQL (Oracle backend), RADIUS (for integrated POP3 password verification) and a custom relay-authentication system; Provided technical advice for various development projects as IP and Unix specialist.

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### April 1997 - October 2000

Company	Application Development and Consultancy B.V.
Role	Software Engineer
Expertise areas	IBM PCs and servers, DIGITAL Alpha servers, various DEC equipment, Cisco routers Unix (DEC OSF1 / Tru64, Solaris, Linux, QNX), VMS, Windows NT 3.51 / 4.0 TCP/IP, LAT, PPP over ISDN, WANs, DNS, web infrastructure (Apache, PHP3, CGI, HTML) C, C++, PL/SQL
Activities	A wide range of internal and external projects, mostly about development, improvement or integration of systems, in many cases directly interacting with customers. 1997: Built a TCP/IP WAN using ISDN dial-on-demand for 5 locations. 1997: Made a design to improve the TCP/IP WAN of an organisation spanning 20 locations, to facilitate the implementation of Windows NT. 1997: Created a mixed LAN environment based on Unix servers (Solaris) and Windows 95 workstations. 1998: Designed and developed a distributed data acquisition system for fault analysis in a glass manufacturing company. Built in C++ on an embedded real-time Unix system (QNX). Fully configurable using own built-in script language; output its data to an Oracle database for visualisation and statistical analysis by a front-end application done by a colleague. 1998: Wrote various hardware interface drivers (RS485, Interbus) in C on QNX for data acquisition system above. 1999: Built a custom replication system in PL/SQL for synchronising an Oracle 7.3 database and a number of Oracle 8 databases. 1999/2000: Extended data acquisition system by implementing an interface to S7 Siemens PLCs, using the ISO Transport Protocol over TCP/IP.

### October 1996 - April 1997

Company	Rabobank Utrecht
Role	Systems operator / Network manager
Expertise areas	IBM PCs and servers DOS, Windows 3.1, Windows 95, Novell 3.12 Novell (IPX/SPX), TCP/IP Scripting, x86 assembly
Activities	Managed the Novell network, servers and workstations in a small team; Performed helpdesk duties and applications support (Windows, Office, financial applications); Created some small utilities (a printscreen driver with network support, a boot manager for separated use of Windows 3.1 en -95); Wrote and adapted scripts to automate workstation updates.

**June 1993 - September 1996**

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Company	F13 Software V.O.F.
Role	Software engineer, co-founder
Expertise areas	IBM PCs and servers DOS, Unix (Linux) TCP/IP Pascal, x86 assembly, C, C++
Activities	Developed object library for a graphical user interface on DOS, to support own software products; Developed data entry module for a GIS-application: created data model and user interface; Small projects: graphical shell for DOS for a computer hardware shop, promo disk for a law agency, smooth scrolling LED-banner screen saver for dutch tourist agency; Developed CPR course support software for first aid and ambulance personnel; Developed training software for medical calculations and Studiewijzer, a generic course development environment and training application.

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