TIMUR TABI

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SUMMARY

Fifteen years experience in low-level programming on a variety of hardware platforms and operating systems, including Linux kernel architecture and development. Expert in C and assembly-language programming for device drivers, BIOS, and other embedded systems. Strong object-oriented design and programming skills. Proven ability to learn new system environments and produce high-quality code faster than expected. Excellent verbal and written communication skills.

SKILLS

Languages: C, Assembly, and Python.
Device Drivers, BIOS, Embedded Systems, Linux Kernel, and Application Programming.
Operating Systems: Linux, DOS, OS/2, and Windows.
Dual American / Austrian Citizen — Semi-fluent in German.
Authorized to work in the U.S. and the European Union.

PROFESSIONAL EXPERIENCE

Freescale — Austin, TX **June 2006 – Present**
Senior Linux Kernel Architect

- Member of team that leads PowerPC Linux architectural decisions for all of Freescale.
- Developed enhancements and bug fixes in the Linux kernel and U-Boot boot loader for various Freescale microprocessors, peripherals, and reference boards.
- Worked on the design and development of a custom hypervisor for the P4080 multi-core embedded processor.
- Official Linux kernel maintainer for several device drivers and subsystems.
- List of Linux kernel contributions available at http://tinyurl.com/o2sggq

Bandspeed — Austin, TX **October 2005 – June 2006**
Embedded Systems Developer

- Developer for the company's Linux-based 802.11 wireless access point.
- Implemented new code and bug fixes for several 802.11 wireless protocols.
- Designed and implemented enhancements to the kernel and the board support package.

Ammasso — Austin, TX **June 2004 – September 2005**
Linux Kernel Developer

- Developed Linux device drivers and firmware for the company's Gigabit iWARP (RDMA over TCP/IP) hardware. These devices provide high-speed, low-latency networking and memory-to-memory transfers for clusters.
- Developed code techniques that allow the software to compile and run with several different Linux versions.
- Worked directly with customers to enable our software to integrate with their systems.
- Designed and developed the Linux Ethernet device driver for the next generation product, the Ammasso 1200 dual Gigabit iWARP adapter.

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CIBER — Austin, TX **January 2002 – May 2004**

Embedded Systems Developer on contract for IBM

- Developed applications and libraries for the service processors (SPs) on IBM's i- and p-Series eServers. The SPs are PowerPC-based embedded systems. The CSP runs a custom operating system, and the FSP runs Linux.
- Lead designer and developer for the Advanced System Management (ASM), a web- and text-based user interface that controls the FSP. Created a custom web server for ASM, designed all user interfaces, and wrote most of the code.
- Implemented support in the CSP's interface to the Hardware Management Console for the new "On/Off Capacity On Demand" feature that IBM recently announced.
- Implemented various enhancements to the operator panel, an LCD display panel controlled by an 80C51 microprocessor. All code is written in assembly language.
- Two patents pending.
- Took a class in Project Management.

Interactive Silicon — Austin, TX **April 2000 - November 2001**

Linux Kernel Programmer

- Developed Linux device drivers and kernel enhancements for the company's cutting-edge memory compression technology.
- Implemented enhancements to the Linux memory manager and CPU cache control without having to modify the kernel itself, because some customers would not be able to recompile the kernel.
- Developed Pentium-specific x86 Assembly code, optimized for Linux via the inline Assembly feature of the gcc compiler, to transfer data tailored to the hardware's unique memory layout.
- Created a development model that allowed the end-user to recompile the driver for custom kernels without revealing the company's intellectual property.
- Improved cross-platform compatibility on common code with the Windows drivers.
- Consistently maintained support for hardware prototypes as they were made available.

Dell Computer — Austin, TX **December 1998 - April 2000**

BIOS Developer

- Fixed customer-specific BIOS problems, such as legacy hardware compatibility, PNP configuration, and device boot issues.
- Enhanced support for various BIOS features, such as the SMBus, ESCD, and setup screens.
- Developed primarily x86 Assembly language code, with some integrated C code.
- Created command-line utilities to change BIOS behavior and flash-update the BIOS itself.
- Implemented support for new motherboards and CPUs, by updating the support for on-board devices like Intel's ICH (I/O Controller Hub) and Super I/O (SIO) chips.
- Verified support of new motherboards within hours of prototype availability by working through the non-stop "bring-up" phase of BIOS development.

Cirrus Logic — Austin, TX **March 1997 - December 1998**

Windows Audio Driver Developer

- Implemented support for the company's new PCI audio hardware (AC97, MIDI, and wave audio) on Windows 95, 98 and 2000.
- Developed code for both the old VxD model and the new WDM model.

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International Business Machines — Austin, TX **June 1994 - March 1997**
OS/2 Multimedia Driver Developer

- Designed and implemented the Real-Time MIDI Subsystem, which provides real-time processing, playback, and recording of MIDI events for OS/2 Warp.
- Pioneered the use of object-oriented coding in C++ for OS/2 device drivers, by examining the x86 Assembly language output of the compiler and tailoring it for device drivers.
- Designed and implemented the high-resolution timer driver, which provides high-resolution timing for device drivers and applications.
- Designed and implemented the OS/2 Audio Device Driver Sample, which is an object-oriented framework for developing OS/2 audio device drivers.
- Implemented support for Win-OS/2 audio on OS/2 Warp for the PowerPC.

Editing Machine Corporation — Washington, D.C. **May 1992 - March 1993**
Audio Driver Developer

- Designed and implemented all the audio solutions for the company's digital video editing software.
- Developed drivers for various audio devices, such as Creative Labs' SoundBlaster, the Turtle Beach Multisound, and Roland's DM-80 digital audio workstation.
- Created benchmarks to measure the performance of the custom hardware's utilization of the ISA bus.

Coopers and Lybrand — Washington, D.C. **Summer 1991**
Network Programmer

- Created a remote-access program working through DECnet, in C and assembly-language for DOS.
- Assisted in the upkeep of various computers and network links throughout the building.

Honeywell/BULL AG — Vienna, Austria **Summer 1986**
Assembly Language Programmer

- Developed a hard drive encryption driver, in x86 Assembly language, to work with the company's SmartCard PC security system.
- Wrote a DOS device driver, also in x86 Assembly, for a new graphics board that had just been released.
- Translated technical documentation from German into English.

EDUCATION

GEORGE WASHINGTON UNIVERSITY — Washington, DC
Master of Science in Computer Science, May 1995. GPA: 3.9/4.0
Awarded Graduate Teaching Assistant Fellowship for Fall 1993 and Spring 1994
Master's Thesis in Groupware Development Tools

TECHNICAL UNIVERSITY OF KARLSRUHE — Karlsruhe, Germany
Department of VLSI Design
Fall Semester of 1991

GEORGE WASHINGTON UNIVERSITY — Washington, DC
Bachelor of Science in Computer Engineering, May 1991. GPA: 3.1/4.0
Area of Concentration: VLSI Design
Recipient, Engineering Honor Scholarship
Member, Eta Kappa Nu (EE/CS Honor Society)