

## Ali Kamali

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### Research Interests

**Operating Systems** (Virtual Machines, Multicore Systems, File Systems, OS Structure)  
**Computer Networks** (Quality of Service, Routing, Network Management, Ad-hoc Networks)  
**Network Security** (Cryptographic Protocols, Security Models, Key Management)  
**Artificial Intelligence** (Logical Agents, Expert Systems, Image Processing)

### Education

**Undergraduate student** September 2003 - present  
Computer Engineering Department, Sharif University of Technology, Tehran, Iran  
GPA: 15.80/20, 131/140 units  
GPA in relevant courses: 18.50/20 (Systems and Networking)

**Diploma in Physics and Math Discipline** September 1999 - June 2003  
Shahid Beheshti High School, Gorgan, Iran

### Research and Professional Experience

**Researcher** December 2005 - April 2006  
**Consultant**  
PeykAsa Company, Tehran, Iran  
Design, implementation and deployment of a reliable, redundant and dependable platform for an SMS Center.

**Researcher** July 2007 - September 2007  
**Consultant**  
Information Technology Company (ITC), Ministry Of Information & Communication Technology, Tehran, Iran  
The goal was to secure the up and running routers of the country's network infrastructure which were running OSPF routing protocol. And also, to find and improve BGP-related routing problems which existed within the country.

**AIBO Research Group (AI)** March 2006 - March 2007  
Impossibles team, Tehran, Iran  
Undergraduate Research in Artificial Intelligence and Robotics Laboratory using Sony AIBO robots. Two teams consisting of up to 4 four-legged robots with all sensors on-board, play soccer on a field. Relevant objects are marked by colors. Communication among robots should be wireless. No external intervention by humans is allowed, except to insert or remove robots in/from the field.

**Designer** July 2004 - present  
**Researcher**  
**Consultant**  
Atinegar Company, Tehran, Iran  
Change the design of a RADIUS server in order to improve security and performance. Also design of different kind of database systems with performance being the most important issue.

### Teaching Assistant

Spring 2006

#### Advance Programming in Java

Computer Engineering Department, Sharif University of Technology, Tehran, Iran  
Under supervision of *Dr. Khosravi*

### Voluntary Activities

#### Senior Systems & Network Administrator

September 2004 - present

Computer Engineering Department, Sharif University of Technology, Tehran, Iran

Administration and maintenance of a set of servers that provide a non-interrupted, highly available and secure services for students, staff and faculty of the department. More info is available at <http://ce.sharif.edu/>.

### Notable Course Projects

#### Simple filesystem for Linux

Fall 2006

Operating Systems Laboratory

A simple filesystem for Linux was implemented using VFS. The goal was to get familiar with Linux kernel and VFS.

#### Webcam Emulator

Fall 2004

Home

A webcam is fully emulated for Windows XP, it is able to display a user selected file for the input of the webcam so that the output from the webcam would be the file that the user is selected. The emulation is done via a driver which is written using Microsoft Windows DDK.

#### x86-based 32-bit Machine Simulator

Fall 2004

Advance Programming in Java Course

Design and implementation of a powerful x86-based 32-bit machine simulator and debugger with ability to boot from a disk image, handle interrupts, and use cache between CPU and main memory. Completely simulating CPU, memory, cache, IO devices (keyboard, mouse, graphic device, disk driver), interrupt handling, BIOS (almost compatible with IBM PC). It also includes an assembler/disassembler with the same syntax as 8086 processor.

#### Secure/Compressed SMS

Spring 2007

Network Security Course

DES algorithm was used so that no one could intercept messages in the communication network. Huffman compression was used to compress the message and allow more than 160-characters to be send in a single message. The project was implemented using J2ME.

#### 4-bit Computer

Spring 2004

Logical Circuits Laboratory

A simple 4-bit CPU with an accumulator with ability to fetch, decode and run the instructions from a stack was designed and simulated using Circuit Maker.

#### Simple DOS Simulator for Motorola 68k

Spring 2004

Computer Structure and Language Course

A simple MS-DOS simulator running on a Motorola 68k CPU, supporting few MS-DOS commands. With ability to emulate a file system, execute other 68k compiled applications, execute and relocate the code (using different address space) and ability to render bitmaps.

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### ANSI-C Compiler

Fall 2005

Compiler Course

Notable subset of ANSI-C was implemented. It generates MASM32 Assembly code as output and thus could be used under Windows platform.

### Publications

Hamid Reza Vaezi Joze, Kianoosh Mokhtarian, Nima Asadi, Ali Kamali, Mahdi Safarnejad, Navid Zolghadr, Hossein Kaffash, Impossibles Architecture for Aibo Four-Legged Soccer in Robocup 2007, Robocup2007, Atlanta, United States, 2007

Jafar Habibi, Hamid Reza Vaezi Joze, Kianoosh Mokhtarian, Nima Asadi, Ali Kamali, Mahdi Safarnejad, Navid Zolghadr, Hossein Kaffash, Impossibles AIBO Four-legged RoboCup 2007 Technical Report, Robocup2007, Atlanta, United States, 2007

Saman Aliari Zonouz, Hamid Reza Vaezi Joze, Siavash Rahbar, Majid Valipour, Alireza Fathi, Kianoosh Mokhtarian, Ali Kamali, Impossibles AIBO Four-legged Team Report, Team report, July 2006.

### Honors

Qualified as the first Iranian team to participate in Robocup 2006 AIBO 4-legged soccer league, as a member of Impossibles team, Bremen, Germany, Summer 2006.

Qualified for entrance to Sharif University of Technology, Ranked *500th* in the Iranian nationwide undergraduate program entrance exam among about 500,000 participants, 2003

Qualified for entrance to National Organization for Development of Exceptional Talents (NODET), Summer 1996.

### Technical Skills

<b>Languages</b>	C, C++, Java, Visual C# .NET, Intel x86 and Motorola 68k Assembly, Bash, Awk, etc.
<b>Operating Systems</b>	Unix variants (Specifically Debian GNU/Linux) Microsoft Windows family of operating systems Cisco IOS and CatOS
<b>Typesetting</b>	L <sup>A</sup> T <sub>E</sub> X, FarsiT <sub>E</sub> X, Microsoft Office Word
<b>Network</b>	Interior Gateway Routing Protocols, Spanning Tree Protocols, VLAN, VRF, QoS, Port Aggregation Protocols, DNS, FTP, SMTP, POP3, VRRP, Familiar with ns-2

### Languages

**Persian:** Native

**English:** Fluent

**TOEFL PBT:** (11/2006) 640/677

**GRE General:** (09/2007) Verbal: 500 (60%), Quantitative: 800 (94%), Analytical: 3 (07%)

### References

Available upon request.