## Shayne Evans

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## Objective

Seeking a challenging position at an innovative organization where I can advance my abilities and prove to be a versatile and dedicated employee.

## Education

**Masters in Computer Science**
University of Pittsburgh - Pittsburgh, PA
Expected: 04/2008
QPA: 3.75

- Completed challenging requirements to obtain both a BS and an MS degree in only 5 years of study
- Participated in research, student teaching, and the academic community at an accelerated rate
- Actively contributed to research via the *Computer Architecture & Systems Technology* lab
- Served as treasurer of the *Computer Science Graduate Student Organization*

**Bachelors in Computer Science**
Related area in Mathematics
University of Pittsburgh - Pittsburgh, PA
Earned: 04/2007
QPA: 3.38 (Cum Laude)

- Worked continuously during summers and school terms to fund education
- Obtained a related area in Mathematics
- Competed for the University of Pittsburgh in the *2007 Imagine Cup* international programming contest at Harvard University in Boston, MA
- Member of the *Phi Eta Sigma* and *Sigma Alpha Lambda* national honor societies

## Professional Experience

**Teaching Fellow - Professor** (08/2007-04/2008)
Department of Computer Science
University of Pittsburgh

- Organized, taught, and graded the course *CS110: Intro to PCs and the Internet* with 30 students
- Organized, taught, and graded the course *CS131: Software for Personal Computing* with 42 students
- Completed the *University Teaching Practicum* with excellent evaluations

**Graduate Student Researcher** (04/2007-08/2007)
Department of Computer Science
University of Pittsburgh

- Contributed to research related to:
  - Design and use of virtual machines, particularly on manycore systems
  - Memory optimizations for performance and performance isolation on multicore architectures
- Regularly presented papers and led group discussion

**Residential Networking Consultant** (2004-2006)
Computing Services and Systems Development
University of Pittsburgh

- Led the development of the *2006 PittNet Connect CD*, which streamlined the requirement checks, software installation, and system configuration of student's PCs to access the university network easily and securely
- Developed other software projects used by more than 25,000 students, faculty, and staff each year including the *Residential Networking Setup CD* for 2005 which won an ACM SIGUCCS award in Fall 2006
- Supported computer needs of the 7,000 resident students and 20,000 commuter students
- Provided wired and wireless setup, system configuration, and support, in addition to spyware and virus removal and complete system rebuilds
- Received accolade for exemplary student performance as a ResNet Consultant

**Webmaster and Technical Consultant** (2003-2006) - Part time
A&S Office of Freshman Programs
University of Pittsburgh

- Maintained and updated the office website and related materials
- Overcame limited server resources to implement several successful dynamic web forms, critical to the office's operation
- Provided consultation regarding the use of technological solutions to improve the effectiveness of office initiatives

## Relevant Project Experience

**Software Dynamic Translation / Virtual Machines**
I am currently participating in the development of a software virtual memory system that is designed to provide memory protection to applications that are executed using the Strata software dynamic translator framework. This protection may be particularly useful for low-end embedded systems.

**Embedded Systems Software**
I implemented a new security feature on an ASUS wireless router that could detect and prevent MAC spoofing on 802.11 wireless access points. This task required an understanding of the 802.11 protocol, the Linux network stack, and embedded software development. (mipsel Linux, cross compiling, memory and CPU-time management, etc.)

I also designed and implemented an infrared peer-to-peer chat application that ran in PalmOS on Palm devices.

**Computer Architecture / Simulation**
I contributed to a team effort to design and implement a detailed trace-driven manycore simulator that could achieve both fast and accurate results. This was a larger scale development effort that employed modularized design and used source control.

I also built and analyzed simulations of advanced computer architecture concepts such as victim caches and distributed shared-caches using the Simics and SimpleScalar simulators.

**Compiler Implementation**
I implemented a Simple-Java to MIPS compilers in both C and Java.

**Network / Security Programming**
I implemented a secure TCP File Server/Client in C:

- Employed SSL sockets and verified certificates using OpenSSL lib
- Applied CrackLib to prevent weak user password creation
- Simulated Certifying Authority and included CRL support
- Protected client authentication data with salt + hashing
- Limited the number of client login attempts

## Papers (in progress or submission)

- TPTS: A Novel Framework for Very Fast Manycore Processor Architecture Simulation
- A Trace-Driven Simulator that can Accurately Predict Superscalar Performance
- Software Virtual Memory Protection via Software Dynamic Translation

## Skills

I have good written and verbal communication skills, strong interpersonal skills, and I work well with others on a team. I am driven to succeed and to help others succeed. I learn quickly and adapt easily. I have a strong enthusiasm for solving interesting problems.

**Expert with:** C, Java, shell/batch scripting, VB .NET
**Proficient in:** C#, Python, Perl, MySQL + PHP, XHTML + CSS, JavaScript
**Experience in:** C++, MIPS, PISA, x86, Alpha, __asm__ in gcc
**Operating Systems:** Microsoft Windows, BSD, Linux, Solaris, DOS, Mac OS X

## References

References are available upon request.