

Benjamin Livshits

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EDUCATION

Stanford University. Pursuing a Ph.D. in Computer Science. *2002—present.*

Topic: *Improving Software Security in C and Java with Precise Static Analysis.*

Expected graduation date: Spring 2006.

Stanford University. M.S. in Computer Science. *Received in 2002.*

Overall GPA—3.83.

Cornell University. B.A. in Computer Science and Math, Summa Cum Laude with Distinction in Computer Science. *Received in May 1999.*

GPA in major subjects—4.09, overall GPA—4.03.

WORK EXPERIENCE

Stanford University. Research Assistant to Prof. Monica Lam. *6/1999—6/2002, 9/2002—present.*

My research at Stanford focuses on advanced static program analysis to detect program bugs. The biggest practical application of these techniques is improving code security for languages such as C and Java. My work addresses such widespread vulnerabilities in today's software as buffer overruns and SQL injection attacks. I have implemented numerous compiler analyses in languages such as C++, Java, and Perl. Please see my home page for links to my publications and projects.

Yahoo! Inc., Data Mining Group. Software Design Engineer. *Summer 2002.*

Created a data mining system for modeling usage data that Yahoo! collects for their advertising campaigns in order to estimate the relative effectiveness of different means of advertising and to improve the performance of individual ad campaigns. This work included initial research, algorithm development, system implementation, and evaluation of the system with multiple large data sets. Results of the project were presented to a large technical staff group at Yahoo!

Netscape Corporation, JavaScript Group. Software Design Engineer. *Summer, Winter 1998*

- Implemented PerlConnect, a package that provides means for interaction between JavaScript and Perl. PerlConnect is similar to LiveConnect, a Netscape product that allows JavaScript and Java talk to one another. PerlConnect is part of Mozilla open source initiative.
- Wrote a JavaScript shell similar to tcsh and other UNIX shells. Implemented compiler optimization for the JavaScript engine written in Java.
- Wrote a testing framework for JavaScript embedders API written in C.

Intel Corporation, Networked Systems Management Group. Software Engineer. *Summer 1997.*

Designed and implemented a wide range of advanced CGI applications for the Web in Perl. Developed a full-featured Web-based database application with MS Access used as a back end.

PROJECTS & SKILLS

My skills include a close familiarity with large-scale software development using languages such as C, C++, Java and Perl. Other software projects I worked on at school and elsewhere include:

- A file input/output library for JavaScript
- A socket-based multi-threaded NFS and telnet, format, and defrag utilities for it
- A Java compiler with a back end producing native x86 executables
- A copying garbage collector for Java
- A client/server window-sharing application for Windows
- A machine vision/HCI system that allows to use one's finger as a pointing device instead of the mouse
- An artificial intelligence system discovering social links between people from citation data publicly available on the Web
- A natural language document classification system

ADVANCED COURSEWORK

Compilers ◊ Programming Languages ◊ Artificial Intelligence ◊ Machine Vision ◊ Natural Language Processing ◊ Operating Systems ◊ Databases ◊ Distributed Systems ◊ Networks ◊ Algorithms

HONORS

Winner of NSF Graduate Fellowship ◊ National Deans List ◊ Golden Key National Honor Society ◊ Won a number of regional competitions in Computer Science, Math and Physics

INTERESTS

Classical Guitar ◊ Badminton and Table Tennis ◊ Reading ◊ Photography ◊ Tutoring Math