

Jacob A. Boxer

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Objective

To become part of a skilled and creative software engineering team. I would like to have a challenging and interesting development experience that will improve my skills.

Education - University of Massachusetts Amherst (Graduated in May 2009)

- Majored in Computer Science
- GPA: 4.00 (Dean's List Recipient every semester)

Academic Honors

- Summa Cum Laude
- Phi Beta Kappa
- William F. Field Alumni Scholar Award
- Finalist and Honorary Mention for UMass Computer Science Outstanding Achievement Awards (senior year)

Computer Skills

- *Desktop Programming* – Java (4 years), Python (1 year), C++ (1 year)
- *Web Programming* – PHP (4 years), MySQL (3 years), JavaScript (3 years), Dojo Framework (1 year), CSS (5 years), Flash/ActionScript (1 year), Servlets/JSP (1 year)
- *MVC Frameworks* – CakePHP (2 years), Django (1 year), Ruby on Rails (6 months)
- *Relevant Coursework* – Data Structures, Algorithms, Functional Languages, Software Engineering, Project Management, Computer Networks, Information Systems/Databases, Operating Systems, Advanced OO Language Features, Concurrency, Aspect-Oriented Programming, Garbage Collection, Memory Allocation, Metaprogramming

Experience

Cisco Systems – Software Engineer

Boxborough, MA; June 2009 – Present

Working in a nine-person team on the Peripheral Gateway in Cisco's Unified Contact Center Enterprise software. Fixing complex bugs, developing new features, refactoring old code, and writing unit tests, all in C++ and Java (using JTAPI).

Cisco/WebEx – Software Engineering Intern

Burlington, MA; June 2008 – August 2008

Worked in a team of four to develop a calendar web application. Used Dojo Toolkit (a JavaScript framework), CSS, HTML, and Java to develop the application. Reviewed UI spec documents and wrote detailed CVS commit messages. Also spent significant time debugging other peoples' code as launch date approached.

Off-Campus Housing (OCH) at University of Massachusetts Amherst – Web Developer

Amherst, MA; August 2007 – May 2009

Developed and maintained a web application that helps students find off-campus housing and landlords list rentals in Western Massachusetts. Used PHP 5 and MySQL to develop the application, as well as JavaScript and AJAX technologies. Worked in a team for the first two months, then worked solo.

University of Massachusetts Amherst – Project Manager

Amherst, MA; September 2008 – December 2008

Managed four 3-person teams as we developed a system to facilitate the simulation of various hospital emergency room scenarios. Guided teams through the classical software engineering phases, delegated work, presided over meetings, and produced system-encompassing deliverables (system test plan, module interface specifications).

Relevant Projects

(source code can be provided for all of these projects)

HvZ Tracker – PHP 5, MySQL

Developed a system to keep track of a campus-wide game at UMass. Over 1,100 students registered and recorded progress with the system in Fall '07, and another 700 in Spring '08.

Thriller – Python, Django, jQuery, MySQL

Rewrote the *HvZ Tracker* system (mentioned above) for an independent study project. Made extensive use of Test-Driven Development and Martin Fowler's refactoring techniques. Includes a number of advanced features such as text-message notifications and areas that are restricted by player status (restrictions can be changed without modifying code).

InternetMom – Python, Django, jQuery, MySQL

Wrote a system (for personal, in-house use) to manage chore assignments for my housemates and me. Uses a self-created algorithm to determine who should be assigned which chores (with fairness priorities based on evenly distributing work on a per-day and per-chore basis). Housemates and chores can be added and removed, and the algorithm will adapt accordingly. Sends email alerts to remind housemates of the chores they have to do, and allows them to record when they've done them so that new ones can be assigned.

PowrHouse – Python, Django, jQuery, MySQL

Rewrote InternetMom (mentioned above) for widespread public usage. Expanding of scope required thinking about scalability and managing time zones. Used Decorators to avoid code duplication.

Boggle Solver – C++

Wrote a system (for personal enjoyment) that takes a standard 4x4 Boggle board as input and prints out a list of all the words that can be spelled with the given board, ordered by length (longest to shortest).

Sudoku Solver – Java

Wrote a program (for Artificial Intelligence class) in Java that treats Sudoku as a Constraint Satisfaction Problem and solves passed Sudoku puzzles using various different CSP-solving techniques. The best of these techniques (meaning the one that makes the fewest brute-force guesses on a given puzzle) is a combination of AC-3 and Sudoku-specific techniques (Conjugate Twins, One Remaining, and Intersection Removal).

Concurrent Web Spider – C++

Wrote a C++ program (for Operating Systems class) which, given a root URL, crawls all the links in the URL tree (up to a crawl-depth specified in a command-line argument). Each page request is done with a separate thread, so that time spent waiting for servers to respond is minimized (the maximum number of threads is specified in a command-line argument).

BiBOP-Style Memory Allocator – C++

Wrote a memory allocator in C++ (for Operating Systems class). Uses the BiBOP technique (<http://www.memorymanagement.org/glossary/b.html#bibop>) to organize and manage pages. Utilizes an already-written shim library to redirect malloc/free calls to my own versions.

References

- Mary Schladenhauffen (boss + mentor at WebEx) / 781.565.6178 / mschlade@gmail.com
- Thea Costine (boss at OCH) / 413.545.1639 / tcostine@gw.housing.umass.edu
- David Fisher (Software Engineering Professor) / 413.545.4852 / dfisher@cs.umass.edu