Jessica T. McKellar (jesstess@mit.edu)

Education

Massachusetts Institute of Technology, Cambridge, MA *2005-present*

Bachelor of Science in Computer Science: Spring 2009
Bachelor of Science in Chemistry: Spring 2009
Undergraduate GPA: 4.4/5.0, Undergraduate In-Major (Computer Science) GPA: 4.6/5.0
Candidate for Master of Engineering in Electrical Engineering and Computer Science: Spring 2010

Experience

Intern *Summer, 2009*
VMware, Source Control Management Team Cambridge

- Design and implementation of a prototype set of components that turn Perforce into a distributed version control system, with work done in C, Python, and in the Twisted framework.
- Security and robustness improvements to a custom Perforce journal synchronizer client and server pair. Additions include SSL support, transaction integrity, and a custom TCP server for file transfer, with work done in C and C++.

Intern *Summer, 2008*
ITA Software, Operations Division Cambridge

- Design and implementation of a business intelligence tool that consolidates data generated by internal reporting applications, extracts trends, and presents results through a web interface.

Researcher *2007-2008*
Infolab Group CSAIL, MIT

- Expansion and maintenance of the START natural language querying system, written in Lisp.

Skills

Proficient with C, Python, the standard UNIX toolkit, UNIX systems programming, network protocols, relational databases. Some experience with the Linux kernel APIs and device driver development, Java, web programming, C++, Objective C, x86 Assembler, Scheme/Lisp, LaTeX.

Open Source Projects

- Developer for Twisted (*http://twistedmatrix.com*), an event-driven networking engine written in Python.
- Updated the complete *Linux Device Drivers 3* example library from the 2.6.10 Linux kernel APIs to those of the 2.6.27 kernel.

Projects and Awards

- (*2009*) **Mobile Application Competition**: wrote a location-aware, collaborative task manager with persistent storage for the iPhone. Winner of the Qualcomm award.
- (*2009*) **Web Programming Competition (6.470)**: wrote a music-exploration website using AJAX, JSON, PHP, and SQL. Finalist; honorable mention for "Best Minimalist Site".
- (*2008*) **Operating Systems Engineering (6.828)**: wrote a microkernel/exokernel hybrid OS in C from scratch, including memory management, process creation, an Ethernet driver, and several networking extensions to a lightweight TCP/IP stack including NAT, firewalls, and DNS resolution.
- (*2008*) **MASLAB (Mobile Autonomous System Laboratory)**: built a fully autonomous, vision-based robot with control software written in Java to navigate an unknown playing field.
- (*2007*) **Autonomous Robotics Design Competition (6.270)**: built a fully autonomous, sensor-based robot with control software written in C to compete against an opponent robot on a known playing field.