

# Jessica T. McKellar

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## 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,  $\text{\LaTeX}$ .

## 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.