Matthew McKay

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Education

2010 – Present **Bachelor of Science in Computer Science (Minor in Mathematics)**, *Carnegie Mellon University (Class of 2014)*, Pittsburgh, PA, *GPA: 3.97/4.0* (Dean's List).

2006 – 2010 **High School Diploma**, *Poolesville High School*, Poolesville, MD, *GPA: 3.88/4.0, Weighted GPA: 4.75/5.0*.

Experience

Fall 2013 – Present **Research/Senior Thesis**, *Carnegie Mellon University*, Pittsburgh, PA.
- Working on a correctness-checking compiler that uses a shared language between phases to allow for compiled code to be verified against its source code.

Summer 2013 **Software Engineering Intern**, *Shopkick*, Redwood City, CA.
- Implemented mcommerce features to allow purchases in both Android and iOS apps
- Implemented server support for mcommerce, including pulling down transaction information and processing it

Fall 2012 – Spring 2013 **Research/Independent Study**, *Carnegie Mellon University*, Pittsburgh, PA.
- Implemented a static verification checker for the language C0 using Z3 theorem prover
- Checks for array index out-of-bounds accesses, null-pointer dereference, arithmetic errors (like division by zero) by using knowledge from loop invariants and contracts

Summer 2012 **Software Engineering Intern**, *Google*, Mountain View, CA.
- Implemented advanced search features in the YouTube Video Manager, and worked on adding customization to the new Dashboard

Fall 2011 – Spring 2012 **Teaching Assistant for Principles of Functional Programming**, *Carnegie Mellon University*, Pittsburgh, PA.
- Helped teach and guide students through learning functional programming with SML
- Taught recitations, wrote homeworks, held office hours, graded papers

Skills

Languages SML, Python, C, Java, Javascript   **Software** Vim, Git, Linux

Activities

Greylock Hackfest 2012 Worked in a group to develop τ (which was in the top ten projects), a webapp for students to submit code and view and respond to comments from teachers for instant feedback

Game Creation Society Programmer of games, participated in three projects since 2010 **Lucid** in Fall 2010 and project **101 Ways to Die** in Spring 2011