533 Putnam Ave, Unit 2
Cambridge, MA 02139
☎ (952) 250-7617
✉ kmill@alum.mit.edu
http://kylem.net

Kyle Miller

Education

2008–2012 **Massachusetts Institute of Technology**, *Cambridge, MA*.
S.B. in Mathematics with Computer Science, Minor in Music. GPA 4.8/5.0
Selected coursework: Algebraic Topology, Theory of Computation, Complex Analysis, Topology, Analysis, Algebra, Algorithms, Linear Algebra.

Interests

Algebraic topology, representation theory, computational mathematics.

Research Experience

2013–present **Research Assistant**, *Microsoft Research New England*, Cambridge, MA.
Mentors: Markus Mobius and Susan Athey. Analyzing large data sets for empirical microeconomics research, and writing crowdsourcing software for studying bias in news sources. Unofficial mentor: Henry Cohn. Proving stability of four bodies following a pentagram orbit.

2011 **UROP**, *MIT Math Department*, Cambridge, MA.
Mentors: Abhinav Kumar and Henry Cohn. Worked on software for visualizing four-dimensional space to study spherical codes.

2010 **UROP**, *MIT Math Department*, Cambridge, MA.
Mentor: Abhinav Kumar. Classified graph structure of quadratic residues mod p while studying algorithmic number theory. Wrote a term paper about this research.

2009–2010 **UROP**, *MIT Computer Science and AI Laboratory (CSAIL)*, Cambridge, MA.
Mentor: Randall Davis. Worked toward combining voice and handwriting recognition technologies to do mathematics with a computer in a natural manner.

2009 **UROP**, *MIT Humans and Automation Laboratory*, Cambridge, MA.
Developed a multi-user real-time unmanned aerial vehicle simulation to study efficient team structures. Won the Licklider UROP Prize for this work.

Awards and Honors

2011 MIT Philip Loew Memorial Award *for creative accomplishment in music.*

2009 MIT Licklider UROP Prize *for the best undergraduate research project in the area of human-computer interaction.*

Teaching Experience

2009 **MIT Splash**, Cambridge, MA.
Taught two 1–2-hour classes aimed at high-school-level students: "The Joy of Eigenvalues" and "A Traversal of Graph Theory."

Work Experience

2012–2013 **Software Engineer**, *Vecna Technologies, Inc.*, Cambridge, MA.
Architected enterprise Java software relating to sending e-mails for healthcare systems.

2010 **Grader**, *Design and Analysis of Algorithms, MIT*, Cambridge, MA.

2009 **Technician**, *NeCSys (MIT Media Lab)*, Cambridge, MA.
Helped maintain the MIT Media Lab computing infrastructure.

2008 **Grader**, *Database, Internet & Sys. Integr. Technologies, MIT*, Cambridge, MA.

2008 **Intern**, *Thomson West*, Eagan, MN.
Designed and built a data migration utility for WestKM for transferring gigabytes of records.

Languages

English Native speaker

Computing Skills

Comfortable programming computers to solve problems for me, designing languages in which these problems are simple to state.

Languages Python, Java/C#, C, Haskell, Lisps.

References

Available upon request.