

# Mitchell Keith Bloch

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## Objective

I am interested in using my knowledge of artificial intelligence, reinforcement learning, software development, and game development to further our understanding of intelligence.

## Academic Qualifications

Doctor of Philosophy Candidate, Computer Science and Engineering (University of Michigan, in progress)  
Master of Science in Engineering, Computer Science and Engineering (University of Michigan, April 2010)  
Bachelor of Science in Engineering, Computer Science, *Summa Cum Laude* (University of Michigan, April 2008)  
University of Michigan College of Engineering Dean's Honor List for Academic Distinction (every undergraduate semester)

## Computer Science and Programming Expertise

- C & C++
- Python
- Object-Oriented Programming
- OpenGL & Direct3D
- OpenAL
- Simple Directmedia Layer
- XNA
- Reinforcement Learning
- Soar
- XHTML, CSS, & JavaScript
- Linux
- Microsoft Visual Studio
- The GIMP
- 3ds Max

## Work Experience

Graduate Student Instructor for EECS 494: Computer Game Design and Implementation (Fall semesters, 2008 - 2010)  
Lead Instructor for Advanced C++: Game Development, Camp CAEN (Summer 2007 - 2010)  
Graduate Student Instructor for EECS 381: Advanced and Object-Oriented Programming (Winter semester, 2009)  
Wrote a cross-platform 3D game engine and made it available at <http://zenilib.com> (Summer 2006)  
Used by EECS 494: Computer Game Design and Implementation, and Advanced C++: Game Development (Camp CAEN)  
Tutored undergraduate computer science courses at the University of Michigan (Winter 2006)  
Brought the Wolverine Soft website up to XHTML 1.1 compliance and made it user editable using PHP and MySQL (Summer 2005); added security and session management features in a redesign (Summer 2006)  
Did research as an intern at the Artificial Intelligence Laboratory at the University of Michigan (Summer 2003)

## Conferences and Presentations

Soar Workshop 30	Presented <a href="#">MAXQ Hierarchical Reinforcement Learning in Soar</a>
Soar Workshop 29	Presented <a href="#">Hierarchical Reinforcement Learning in the Taxicab Domain</a>
FDG 2009	Attended
IGDA Southwest, Dec. 2004	Presented a Java applet game of Battleship featuring non-cheating opponent game AI

## Merit Scholarships and Prizes

2004 - 2008	Bell Charitable Trust: Gloria Wille Bell and Carlos R. Bell Scholarship
2007	Winner of the 4th Wolverine Soft 48-Hour Game Development Competition
2006	Winner of the Winter Combinations Contest (EECS 370, Introduction to Computer Architecture)
2004 - 2006	Michigan Merit Award and Competitive Scholarship
2004 - 2005	University of Michigan Regents Scholarship
2004	National Merit Scholarship Finalist
2004	AP Scholar with Distinction and National Honor Roll
2003 - 2004	USA Mathematical Talent Search Silver Prize Winner

## Memberships

Member of the IEEE and the IEEE Computational Intelligence Society  
Member of the International Game Developers Association (Detroit chapter)  
Member of Wolverine Soft, the video game development student group at the University of Michigan (2004 - 2011)  
Project Advisor (2009 - 2011), President (2007 - 2008), Webmaster (2005 - 2007)  
Tau Beta Pi (TBP) The Engineering Honor Society, Michigan Gamma Chapter  
Eta Kappa Nu (HKN) National Electrical Engineering Honor Society, Beta Epsilon Chapter