MINA KHAN

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EDUCATION

Bachelor of Arts: Mount Holyoke College (MHC), South Hadley, MA *Expected May 2015*
Majors: Mathematics, Computer Science and Physics GPA: 4.00
Scholarships: The Google Anita Borg Memorial Scholarship ('14), Grace Hopper Scholarship Grant ('14)
Academic Awards and Honors: Sigma Pi Sigma-Physics Honors Society (2014); Sarah Williston Prize for Highest ranked students *(2013)*; Sarah Williston Scholar- top 15% of class (2013); Bennett Prize for Excellence in Physics (*2012*); Mildred L Sanderson Prize for Excellence in Mathematics (*2012*).
Courses*:* Operating Systems; Artificial Intelligence; Machine Learning; Software Design; Web Programming; Computer Systems; Computational Theory; Abstract Algebra; Real and Complex Analysis; Electronics; Advanced Quantum; Statistical Mechanics; Differential Equations; Data Structures.

SKILLS AND EXPERTISE

- **Programming Skills:** Java; Python; JavaScript; HTML; CSS; Google App Engine (Spark: match, mentor, code); WearScript.js for Google Glass; Node.js; PostgreSQL; Arduino Integrated Development Environment; MATLAB; Sage; Fortran; C++; Linux.
- **Leadership Experience:** Head of Literaty Pakistan USA Chapter (*Sept 2012-May 2014*); Youngest Secretary General for Five College Model United Nations VI (*2012-13*).

PROJECTS

- **CookUps:** Food recipe search engine that suggests recipes based on ingredients *Sept 2014- present*
- **Just-in-time learning using Google Glass** *August 2014- present*
  - Advisor: Professor Pattie Maes and Scott Greenwald at MIT Media Lab
  - Develop applications on Google Glass, Mobile and Web for contextual learning and augmented memory
- **Gröbner Bases for Polynomial Systems in Robotics** *June - August 2014*
  - Advisor: Professor Russ Tedrake at MIT Computer Science and Artificial Intelligence Laboratory
  - Efficiently solve equations of motion of robots using Gröbner bases
  - Presentation: Gröbner Bases for Polynomial Systems in Robotics (*August 2014*)
- **Swarm Robotics: Remotely Controlled Multi-Robot Formations** *Sept 2013- June 2014*
  - Advisor: Professor Audrey St. John at Mount Holyoke College
  - Create a leader-follower model of robots using iRobot Create, Arduino robots and rigid graph theory
  - Presentations: Leader Follower Control Using Directed Graphs (*May '14*); Leader Follower Control of Multi-Robot Formations (New England Undergraduate Computing Symposium: *March 2014*)
- **Ferromagnetic Nanorings and Nanowires** *May 2012-May 2014*
  - Advisor: Professor Kathy Aidala at Mount Holyoke College
  - Investigate ferromagnetic nanostructures for magnetic memory using Atomic Force Microscopy
  - Publication: A Multi-level Single-bit Data Storage Device (Journal of Applied Physics: *March 2014*); Presentation: Multi-level Single-bit Data Storage Device (Magnetism & Magnetic Materials: *Nov '13)*
- **Analyze Joule Heating using Defense Meteorological Satellite Program data** *June-August 2013*
  - Advisor: Dr. Barbara Emery and Dr. Astrid Maute at National Center for Atmospheric Research
  - Analyze data using MATLAB and Fortran code to estimate Joule heating
  - Presentation: Calculate Joule Heating using DMSP data (American Geophysical Union: *Dec 2013)*

TEACHING EXPERIENCE

- **Udacity:** Course Manager *May '14-present*