MINA KHAN

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EDUCATION

- **Visiting Research Student: MIT - Massachusetts Institute of Technology** *Jan - May '15*
- Full-time research at MIT Media Lab Fluid Interfaces group on "WearScript for Google Glass"
- **Harvard Extension School:** Course: E-124 Data Structures and Algorithms *Jan - May '15*
- **Bachelor of Arts: Mount Holyoke College (MHC)** *Sept '11 - May '15*
- Majors: Mathematics, Computer Science and Physics GPA: 4.00
- Courses*:* Operating Systems; Artificial Intelligence; Machine Learning; Software Design; Web Programming; Computational Theory; Abstract Algebra; Real and Complex Analysis; Electronics; Advanced Quantum; Statistical Mechanics; Differential Equations; Data Structures
- Scholarships: Google Anita Borg Memorial Scholarship '14; Grace Hopper Conference Scholarship '14

SKILLS AND EXPERTISE

- **Programming Skills:**
- *Proficient in:* Java; Python; JavaScript; HTML; CSS; MATLAB; Fortran
- *Experienced in:* Node.js; Express.js; WearScript.js; Android; PostgreSQL; Google App Engine; Arduino IDE; C++; Linux
- **Leadership Experience:** Head of Literaty Pakistan USA Chapter (*Sept '12 - May '14*); Youngest Secretary General for Five College Model United Nations VI (*'12-'13*)

PROJECTS

- **WearScript for Google Glass** [MIT Media Lab Fluid Interfaces group] *Aug '14 - present*
- Develop Google Glass, mobile and web applications for micro-presence and just-in-time information
- Publication: Enabling Human Micro-Presence through Small-Screen Head-Up Display Devices (CHI '15)
- **Udacity:** Course Manager *May '14 - present*
- Courses: Machine Learning; Web Development; Android Development; Programming with Python
- **CookUps:** http://cookups.org/ *Sept - Dec '14*
- Developed a food recipe search engine that suggests recipes based on ingredients
- **Gröbner Bases for Robotics** [MIT Computer Science and Artificial Intelligence Lab] *June - Aug '14*
- Developed algorithms to efficiently solve equations of motion of robots using Gröbner bases
- Presentation: Gröbner Bases for Polynomial Systems in Robotics
- **Swarm Robotics: Multi-Robot Formations** [Mount Holyoke College] *Sept '13 - June '14*
- Created a leader-follower model of robots using iRobot Create, Arduino robots and rigid graph theory
- Presentations: Leader Follower Control Using Directed Graphs; Leader Follower Control of Multi-Robot Formations (New England Undergraduate Computing Symposium '14)
- **Ferromagnetic Nanostructures for Magnetic Memory** [Mount Holyoke College] *May '12 - May '14*
- Investigated ferromagnetic nanostructures for non-volatile and dense magnetic memory
- Publication: A Multi-level Single-bit Data Storage Device (Journal of Applied Physics March '14); Presentation: Multi-level Single-bit Data Storage Device (Magnetism & Magnetic Materials '13*)*
- **Model Joule Heating** [National Center for Atmospheric Research] *June - August '13*
- Analyzed satellite data to estimate Joule heating for atmospheric models
- Presentation: Calculate Joule Heating using DMSP data (American Geophysical Union '13)

AWARDS AND HONORS

- Sarah Williston Senior Scholarship *(2015)*; Sigma Pi Sigma-Physics Honors Society *(2014);* Top 100 in Code Jam to I/O for Women *(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*)

TEACHING EXPERIENCE

- **Mount Holyoke College Teaching Assistant:** *Sept '12-present*
- *Courses*: Data Structures (*Jan '14-present*); Quantum Mechanics (*Jan-May 2014*); Real Analysis (*Jan-May 2014);* Linear Algebra (*Jan- Dec 2013);* Discrete Mathematics (*Sept- Dec 2012)*
- **Mount Holyoke College Physics PLUM (Peer-Led Undergraduate Mentor):** *Sept '12-Dec '13*
  Courses: Electromagnetism (*Sept 2012-Dec 2013);* Force, Energy and Motion (*Jan-May 2012)*

COCURRICULAR ACTIVITIES

- **Hackathons and Conferences:** Google Scholars' Retreat 2014 – *Hackathon Project*: Spark: match, mentor, code; WECode (Women Engineers Code) 2014 – *Hackathon Project*: Google Calendar Time Tracker App; Mount Holyoke College Maker Jam 2014 - *Project*: Follower-Leader Robots; New England Undergraduate Computing Symposium 2014; Northeastern Conference for Undergraduate Women in Physics (2012-2014)
- **Debate:** Member of Mount Holyoke College (MHC) Model United Nations (MUN) Society; MHC Debate Society; American Parliamentary Debate Association
- **Science Outreach**: NanoDays 2014 at Museum of Science, Boston (in collaboration with Center for Integrated Quantum Materials at Harvard University).
- **Math Competitions:** 4th position in 5th Central Connecticut State University Regional Math Competition (April 2013)