Karishma Reddy Khan

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Education

Graduation: May 2021 — **Brandeis University | Waltham, MA**
PhD | Computer Science

Graduation: May 2017 — **Brandeis University | Waltham, MA**
Master of Arts | Computer Science

Graduation: May 2015 — **Mount Holyoke College | South Hadley, MA**
Bachelor of Arts | Magna Cum Laude
Majors: Physics and Theatre | Minor: Electrical Engineering

Experience

Aug 2015–Dec 2016 — **Brandeis University Computer Science Department | Waltham, MA**
Head Teaching Assistant: Discrete Structures, Scientific Data Processing, Software Engineering Scalability

June 2016–Aug 2016 — **High Energy Physics Lab, Brandeis University Physics Department | Waltham, MA**
Programmer
- Developed a Matlab GUI to simulate experiments to map the human eye
- Developed image stitching protocols to stitch together experimental data results

Sep 2015–Dec 2015 — **SAXSLAB U.S.A. | Northampton, MA**
Developer
- Company manufactures X-Ray scattering devices and analyzes scattering data
- Updated pre-existing Matlab 2012a GUI code to be compatible with Matlab 2015a

June 2015–Aug 2015 — **Molmex Scientific | Northampton, MA**
Intern
- Company designed and manufactured Small Angle X-Ray scattering devices
- Designed 3D models in SolidWorks which are currently in use on the devices
- Developed code in spec, a C-like software, to improve the user interface on scattering devices

May 2012–May 2015 — **Mount Holyoke College, Atomic Force Microscopy Lab | South Hadley, MA**
Research Fellow with Dr. Katherine Aidala
- Worked with Quantum Dots, nanoscale semi-conductors with potential solar cell applications
- Studied crack formation in sub-monolayers of PbS Quantum Dots

June 2013–Aug 2013 — **Fermi National Accelerator Lab | Batavia, IL**
Research Student
- Worked on Wire Position Monitors (WPMs) used to detect motion in Linear Accelerator Cavities
- Developed a Matlab Graphical User Interface to analyze data from WPMs that is still in use
- Demonstrated that Matlab is compatible with Fermilab's accelerator network

Projects

Oct 2016 – Ongoing — **Quantum Escapement:** Implementation of an escape the room style game using Blender
Sep 2016 – Ongoing — **NanoTwitter:** Implementation of a small scale Twitter app as a study in scalability
June 2016 – Ongoing — **CCD:** Simulates the process of taking a photograph with a CCD camera using bining and integration
Jan 2015 – May 2015 — **Turtle 2.0:** Remote control car with object avoidance capable of dynamic communication

Skills

Programming: Java, Matlab, Ruby, Sinatra, Scheme, Rails, JavaScript, HTML, LaTeX, Git, Python, spec
Lab Skills: Atomic Force Microscopy, Asylum software, spin coating, plasma cleaning, oscilloscopes
Hardware: Arduino, SolidWorks, Blender, analog and digital circuitry, soldering, machining